The Builder.

No. CCXXXIV.

SATURDAY, JULY 31, 1847.

THE advantages which must result from the annual meetings of the Archæological Societies in the provinces are numerous; and amongst them we would not omit the profitable relaxation they offer to the dwellers in the great city, always busy and excited, leading them to pleasant and instructive rambles over our own beautiful England, which bring health with increase of knowledge, and a truer estimate of our own weaknesses and deficiencies by an extended communication with our fellow men. The taste for antiquarian pursuits spread throughout the country, the feeling in favour of ancient monuments which is necessarily induced, and the protection thus assured to the remaining relics of our forefathers' skill, are not more important in our minds, highly as we regard them, than the advantage we have here alluded to.

Innocent enjoyment alone is not an unimportant provision; when it is at the same time instructive and profitable, its value can scarcely be over-rated.

The meeting of the British Archæological Association at Warwick, last week, was full of interest. No one who spent the week there will easily forget its events. We shall not pretend to give in regular series a report of the proceedings, but confine ourselves to notes on such of the places visited as have points of value to our readers, and the heads of those papers which serve to elucidate them. Of the magnificent hospitality with which the society were received in various noble houses, and the *soirées* in the County Hall, we shall not attempt to speak; but we must find room for some remarks made by Mr. Pettigrew, Vice-President, on the value and objects of the Association, in an able address at the opening meeting, whereat Lord Brooke, M.P., presided. Mr. Pettigrew said:—

"The organization we have effected must, in the course of time, yield to us the most ample information; but the expense attendant upon illustrating our numerous communications in the manner to which they are entitled, and without which much of the interest attached to them is lost, is a serious matter to an association with a very limited income.

We have a common interest in urging the claims of this association to our friends, as an increase in the number of our associates will enable us to receive a volume of a value beyond that of our subscription, as the journal is our own property, not that of any bookseller, and our friends are devoted to the utmost extent to render it worthy of patronage, and properly to elucidate the objects of which it treats. In looking over the two volumes of the Journal of the Association, it is impossible not to be impressed with the importance of our avocations, and to feel in the liveliest manner how much real service we are doing to the antiquarian world. I confess that I never do so without experiencing considerable pain in the reflection upon that which has been lost. How many important discoveries have been made without even a line to record them or to give anything like a permanency to their existence. Thanks to the founders of the British Archæological Association, that cannot now be the case—future antiquaries must consult our labours, where they will find the most perfect record of the discovery of antiquities to be met with. Our pages are not filled with elaborate essays upon speculative matters or conjectural remarks; they form the DIARY of the antiquary. Our correspondents are in every county of England, may they extend beyond it—the communications are sent to us at the time of their occurrence, when facts are capable of being verified, and when the truth of opinions founded upon them admit of being tested. These are the true materials for the historian—it is from this mine that we shall arrive at conclusions affecting historical truth, the end and purpose of antiquarian research. Of what value is a Roman vase or patera—plain and insignificant, perhaps, in its appearance—but that by the peculiarity of its construction, by the nature of its material, we can at once detect the place whence it sprung, the age in which it was brought forth, and the condition of the arts, and the state of civilization of the period to which it belongs. How important in the history of men to mark these memorials—to compare them with others either of an earlier or later period, and thus to elucidate those to which they appertain. A classification of antiquities can only be effected by the accumulation of antiquities beyond those which we have at present obtained."

Mr. Pettigrew went on to say,—"I am quite aware that I have given to you a very imperfect representation of our labours for the year as it relates to the discovery of objects of antiquarian interest; but this does not constitute all the purposes for which we are associated. We are not only brought together 'to investigate, preserve, and illustrate all ancient monuments of the history, manners, customs, and arts of our forefathers;' but we are combined, also, to oppose and to prevent, as far as in our power, all injuries with which our ancient national monuments may from time to time be threatened, and as far as our experience has hitherto extended, we have no reason to be dissatisfied with the results. Among the numerous works now going on in the formation of railways, it has happened that various monuments of interest have been threatened with destruction, and it is but due to the engineers engaged on those works to say, that our representations have always been attended to, and that there has not been manifested any indifference to the interest of the subjects brought under their notice. We have, perhaps, more difficulty in rescuing the ancient distemper paintings which so much abound in our churches from the very convenient destroyer known by the designation of *whitewash*, and I regret to say, that in a late instance in the Isle of Wight some most interesting mural paintings of this description were absolutely obscured, and irretrievably lost to us, even while our correspondents were engaged in making drawings from them for our inspection. We are not so unreasonable as to expect that in every instance in which those ancient paintings present themselves, they are to be carefully preserved, to the destruction, perhaps, of the soberness which should distinguish our places of worship; but we have a right to expect that the officers of the church, whether clerical or laymen, should allow us, at least, to make drawings from them, and thus possess what is next but to the specimens themselves, a record of their nature,—and thus preserve from oblivion the memory of the past."

WARWICK CASTLE.

Warwick was well chosen for the meeting: it has several interesting buildings, is rich in historical associations, and surrounded by places worthy of a visit, to some of which we shall refer hereafter.

The Castle claimed early attention, and was of course carefully examined. Whether looked at for the valuable example it affords of an ancient castellated mansion, the manner in which it is now maintained, its absolute beauty as a residence, or on account of the gems of art there gathered together, it alike calls for admiration. Part of the castle, Cæsar's Tower, has been supposed to date from the Norman period: and another portion, a lofty polygonal building called Guy's Tower, belongs to the fourteenth century. The approach through the principal entrance gateway, itself a valuable remnant, by a roadway cut through the rock and flanked by magnificent trees and foliage, is very striking; and when the visitor gains the inner court, he sees before him large extent of the ancient castle, bold, massive, and picturesque, preserved with care, and conjoined with the elegance of an English nobleman's garden. Of the position of the castle, on a precipitous rock rising from the Avon, the view it commands, and its celebrated cedars, of monstrous size and great luxuriance, we have not space to speak. We can but pass hastily through the residence, which embraces a series of apartments 333 feet in length, and glance hastily at some few of its parts.

The members of the association were conducted over the building by Mr. John George Jackson, whose more minute account of the exterior remains we shall give hereafter.

The Great Hall is a fine apartment,* with a very good open roof, designed seventeen years ago by Mr. Poynter. Here we have Rubens's "Lions," the size of life, Jansen's "Shakspeare," and some other good pictures,—not mentioning curiosities, such as Cromwell's helmet, elk horns, 12 feet 9 inches long, and the coat of buff in which Lord Robert Brooke was shot in 1642. In the ante drawing-room are some fine Vandykes, "A Burgomaster," by Rembrandt, a fine portrait of Joanna, Queen of Naples, by Leonarda da Vinci, and a superb portrait or two by Rubens. The Cedar Drawing-room, the Gilt Drawing-room, and indeed nearly every room, display fine bronzes, enamels, and inlaid furniture. In the latter is the picture of Ignatius Loyola, by Rubens, often talked about. The Boudoir has some Holbeins, and a picture of an Armourer's Shop, by Teniers: and in the Billiard-room are some views of the castle, by Canaletto, who resided in the town for some time.†

Illustrative of the collection in Warwick Castle, Mr. W. H. Rogers read a paper at one of the meetings on the

LIMOGES ENAMELS,

In which he stated that the material on enamelled works was introduced into England by Magister Johannes Lemovicensis, who came over in 1276 to construct the tomb of the Bishop of Rochester, and afterwards that of William de Valence, Earl of Pembroke. The lessons he taught were not forgotten, as might be perceived by the subsequent tombs of Edward the Third, Edward the Black Prince, and, at a still later period, that of the Earl of Warwick, in the Beauchamp Chapel, which evinced a beautiful knowledge of the progress in the bulbs of the herse, and in other compartments. Enamelled paintings in the sixteenth century were particularly made for the decoration of churches, and treated with the solemnity of devotion. But then the faith of the age was fast wearing away, and the luxury of a wealthy court began to regard as its own those services which the disinterested feelings of previous centuries had consecrated only to religion. The inventions of genius were now made subservient to the humour of Francis I., and among them the discovery of a mode of painting in enamel upon a solid opaque surface was not the least prized or encouraged; Leonardo di Vinci, whose superior drawing and deep knowledge of the mixture of colours gave him a striking pre-eminence, being called into France by its magnificent sovereign, and receiving from him abundant favours. Among his most important productions in pictures are the large portraits of Francis I. and Claude de France, in the

* 68 feet long, 40 feet broad, 26 feet high to the cornice, and 9 feet more to the ceiling.

† Mr. Cooke, of Warwick, who has published a very good guide to the castle and places of interest in the neighbourhood, exhibited at the last conversazione a view of one of the city gates, apparently by the same master.

Lonorne, and of Catherine de Medici and Andrea Donà, Doge of Venice, in the cabinet of Ralph Bernal, Esq., M.P. His drawing shows a deep study of the works of Raffaelle, and his colouring is generally of a greyish white upon a black or dark blue field. In this respect he was followed by enamel-painters for more than a century. Five specimens of his still grace the Warwick collection; a large circular dish, displaying on one side the Feast of the Gods, and at the back an ornamental border, having in the centre a head with "L. L." in gold, and a border of very unusual occurrence. In it are four medallions, with subjects painted in cameo vert and united by foliage; the remaining specimens of this artist are from pictures representing mythological subjects, with Italian verses beneath them, and round the blue enamelled frames, decorated with moresque patterns in gold.

Mr. George Isaacs followed on the same subject, and we may perhaps give some of his remarks on another occasion. Under this same head we must refer to *the collection made by Mr. Redfern*, of Warwick, a dealer in works of art. It contains some very fine things and great curiosities, not the least amongst which latter is the intelligent collector himself, who runs half over the world to pick up rare bits.

We now step to

ST. MARY'S CHURCH AND THE BEAUCHAMP CHAPEL,

A structure visited, as a matter of course, by all who go to Warwick, and which afforded a subject for several papers on the occasion of which we are speaking. The body of St. Mary's church was rebuilt by Sir W. Beauchamp in 1395, on a much older foundation, portions of which remain in the shape of a crypt, but being burnt down as far as the choir in 1694, was reconstructed in a barbarous manner. The design of the tower was, until lately, attributed to Sir Christopher Wren, but this has been disproved.* Sir W. Wilson is now said to be the author of it. It is called 130 feet high to the battlements; 174 feet to the top of the pinnacles; 33 feet 4 inches square at the foot; 27 feet at summit; and cost 1,600*l.*†

The groined ceiling of the choir, where the pendentive ribs are perforated, is very curious. In the chapter-house, north of the choir, (omiting to mention many others,) is a seventeenth century monument to the well-known "Fulke Grevill, servant to Queene Elizabeth, concellor to King James, and *frend* to Sir Philip Sidney."

The Beauchamp Chapel, on the south side of the choir, is an excellent specimen of the last period of pointed architecture, the perpendicular, and has many points of rare interest, as well in the adjoining apartments as in the monuments it contains. It is further of great value because, fortunately, the agreement between the executors of Richard Beauchamp, Earl of Warwick, and the various artists who were employed in the finest part of the fabric, is preserved: it is dated 1453. We give some extracts from it, as set forth by Dugdale.‡

"*John Prudde* of *Westminster* glasier, 23 *Junii* 25 H. 6, covenanteth, &c. to glase all the windows in the new chappell in *Warwick*, with glasse beyond the seas, and with no glasse of *England*; and that in the finest wise, with the best, cleanest, and strongest glasse of beyond the sea that may be had in *England*, and of the finest colours of blew, yellow, red, purpure, sanguine and violet, and of all other colours that shall be most necessary, and best to make rich and embellish the matters, images and stories that shall be delivered and appointed by the said executors by patterns in paper, afterwards to be newly traced and pictured by another painter in rich colour at the charges of the said glasier. All which proportions the said *John Prudde* must make perfectly to fine, glase, eneylin it, and finely and strongly set it in the lead and souder, as well as any glasse is in *England*. Of white glasse, green glasse, black glasse, he shall put in as little as shall be needfull for the shewing and setting forth of the matters, images and storyes. And the said glasier shall take charge of the same glasse, wrought and to be brought, to *Warwick*, and set up there, in the windows of the said chappell; the executors paying to the said glasier for every foot of glasse *ii* s. and so for the whole *xci* li. *i* s. *x* d."

"*Richard Bird* and *John Haynes*, citizens and carpenters of *London*, *xii* Feb. 28 H. 6, do covenant to make and set up in the chapell where the earl is buried, or where the tombe standeth, a pair of desks of timber, poppies, seats, sills, planks, reredoses of timber, with patands of timber, and a crest of fine entail, with a bowtel roving on the crest. And also the carpenters do covenant to make and set up, finely, and workmanly, a parclose of timber about an organloft ordained to stand over the west dore of the said chapell, according to patterns: all these things to be made, set up, fastned, joyned, and ordered in as good sort as those in the quire of S. Maries Church in *Warwick*; the executors finding all manner of timber, and carriages; and giving and paying to the said carpenters, for the workmanship *xl* li.

John Brentwood, citizen and steyner of *London*, 12 *Feb.* 28 H. 6, doth covenant to paint fine and curiously to make at *Warwick*, on the west wall of the new chappell there, the dome of our Lord God *Jesus* and all manner of devises and imagery thereto belonging, of fair and sightly proportion, as the place shall serve for, with the finest colours, and fine gold: and the said Brentwood shall find all manner of stuffe thereto at his charge; the said executors paying therefore *xiii* li. *vi* s. *viii* d."

"*By the accompts of the before specified* Will. Berkswell, one of the executors to the said earl, (and then dean of this Coll. Church) I find that the structure of this chapell and monument was begun in 21 H. 6, but not totally finished till 3 E. 4, (which was full 21 years); and that the totall cost thereof, in the work of masons, quarriers, smyths, plummers, carpenters, and other inferior labourers, added to what those principall artists had, with whom the said executors so covenanted, as I have before exprest, amounted to no less than MMCCCCL xxxi *li.* iv *s.* vii *d.* ob. At which time were also the deanery and colledge (both standing at the east end of the churchyard) reedified by those executors, the charge whereof came to DCCCCLxxxviii *li.* xix s. ix d.

The internal dimensions of the chapel, as given in Britton's "Architectural Antiquities of Great Britain," which contains, a plan, section, and views of the building, are, length 58 feet, breadth 25 feet; and height, from the paving to the ridge of the groined vaulting, 32 feet.

Relative to this chapel, we must not omit to mention what occurred at a meeting of the association on Friday morning. After various papers had been read, some of which we shall give hereafter, Mr. G. Godwin, being requested by the chairman, Mr. Pettigrew, to make some observations on the Beauchamp Chapel, drew attention to the restorations then proceeding there, which, he said, were apparently carried on without professional assistance, and if pursued to the end, would entirely destroy the character of the building. Anxious as he was that such a building should be maintained, he would sooner see it a ruin than that the original work should be thus disguised. It seemed easy for a working mason to take the remains of a pinnacle, or a canopy, and copy it, but unless aided by the eye of an artist, the result, while it appeared like, would be a mere caricature. He was most anxious not to give offence: all he wished to suggest was, that the legal custodians of the building should place the masons under the direction of their architect. While speaking, he would further suggest, that the crypt of St. Mary's should be freed from some of the earth which now hides the bases of the Norman columns. A trifling outlay would render this a very interesting part of the church.

Mr. C. H. Bracebridge, of Atherstone Hall, said that instead of being offended, the county would feel greatly obliged to Mr. Godwin, who had only spoken too mildly as to the course pursued in the restoration. The sum of 50*l.* per annum had been granted under the trusteeship of Sir William Dugdale's heirs and the mayor of Warwick, for the support of the chapel, and he (Mr. Bracebridge), pledged himself to bring the remarks which had been made before these parties, and to obtain what was desired. The crypt was in different hands.*

In connection with the building, we now give a paper by Sir Samuel R. Meyrick

ON THE ARMOUR OF ONE OF THE EARLS OF WARWICK, IN THE BEAUCHAMP CHAPEL.

It commenced by stating that this chivalrous nobleman died in France, on the 4th April, 1439, a little while after the marriage of his eldest daughter, Margaret, by his first wife, to Sir John Talbot, Lord Talbot, the celebrated hero of his day. He had made his will three years previously, while he was at Caversham, in Oxfordshire, and as that document states, in the fifty-fifth year of his age. His executors were Lord Cromwell, Lord Tiptoft, John Throckmorton, Richard Cursor, Thomas Huggerford, Nicholas Rochy, his steward, and William Berkswell, priest, and dean of the Collegiate Church at Warwick. These, soon after his decease, in compliance with the injunction in his will, sent for his body to be interred in the town so named. "The whuch body," according to the inscription on the tomb, "with grete deliberacon and ful worshipful condiut bi see and by lond, was broght to Warrewik, the 4th day of October, the yer abouesaide (1439), and was leide with ful solenne exequies in a feir chest made of stone in this Chirche, afore the west dore of this Chapel, according to his last wille and testament, therein to rest till this Chapel by him devised in his lief were made." It was, therefore, placed in the Collegiate Church until the Beauchamp Chapel was ready; "the whuch Chapel, founded on the rooch and all the members thereof, his executors dede fully make and appairaille by the auctorite of his seide last wille and testament, and therafter by the same auctorite they dide translate ful worshipfully the seide body into the vout aboue saide." It is not known who gave the design for the chapel and monument, but there is good reason for concluding that William Berkswell, above mentioned, was the architect, as he kept the accounts of the buildings, which are now in the possession of the bailiff and burgesses. For this purpose various agreements were entered into with different citizens, in order that the whole might be executed in the most tasteful and appropriate style; and before this chantry chapel was incommoded by any other monument than that of the founder, it must have been beautiful in the extreme. The earliest of them bears date 1443, and that for the effigy, 1450. The late clever draftsman, Charles Stothard, had informed Sir Samuel Meyrick that he had locked himself in while employed in making drawing of this effigy, that he turned it completely over, and found that it was made to divide in the middle. Three of his exquisite drawings were beautifully etched by himself for his work on "Monumental Effigies," and the fourth by Mr. Smith; so that the front, the back, and each of the sides are most satisfactorily represented. The whole of the armour is perfect except the lance-rest, the pallette for rondelle to guard the right arm pit, the pauldron being hollowed out to admit the free use of the sword arm, the sword belt, the dagger, and the spurs. At this period the basinet had been laid aside, so that there was no other protection for the head than simply the helmet, no longer put over the former, but which was occasionally laid aside for an open head-piece, called a salade, worn over a *mentoniere*, or covering for the throat and chin. The helmet is of the very rare kind

* "Churches of Warwickshire."
† The dimensions given by Dugdale are less.
‡ "Antiquities of Warwickshire Illustrated." By Sir W. Dugdale. Second edition. 1730.

* After the meeting we understood that an individual offered at his own expense to clear out the crypt if permitted.

which, from the projection of the *ocularium*, has somewhat of resemblance to a bird's beak, and is confined to the reign of Henry VI.—The paper contained an elaborate detail of the ornamental portion of this monument. At the conclusion of the paper, in reference to the renowned Earl, Sir Samuel observes,—"In all his charters he styled himself *Ricardus de Beauchamp, comes de Warrewyk, et de Aumarle, Seignior l'Isle, et capitayne de Rouen.* I will merely add that, in what was at that time regarded as the greatest proof of religion, he was no less liberal, for he founded, beside the chantry chapel at Warwick, one at Guy's Cliffe, near that town, and a college at Elmley, in Worcestershire."

The tomb on which this armour lies is very beautiful: it has a series of niches upon it filled with figures of "latten," gilt, of admirable design and workmanship.

The next paper is one that was contributed by Mr. John Green Waller,

ON THE MONUMENTAL BRASS OF THOMAS, EARL OF BEAUCHAMP, AND LADY, IN WARWICK CHURCH.

It commenced by saying that, as Warwick contained, among its monumental antiquities, one of the finest effigies in the kingdom, so also it possessed an unique brass, in that to the memory of Thomas de Beauchamp, Earl of Warwick, and his lady, the daughter of — Ferrers. Previous to the partial destruction of the Church of St. Mary by fire, in 1694, the monument to the above mentioned consisted of an altar-tomb, with horizontal canopy, and enriched with many heraldic achievements. The brasses were inlaid upon the slab of the table-tomb, and formerly consisted of two figures under canopies, with some shields of arms. The present remains are the figures only, now fixed against the wall, and beneath them a modern inscription. The peculiarity which authorized him (Mr. W.) to pronounce the brass an unique specimen was, in its presenting an example of *pounced* or punctured work, probably in imitation of embroidery, and which formed a beautiful diaper to the heraldic bearings, and other parts of the figures. It was to this feature that he would particularly direct the attention of the members, and the inhabitants of Warwick, as the brass, in its present state, being so thickly covered with successive coatings of gilding, required minute inspection before ornamentation could be discovered. *Pounced* work,—in French, *pounsonnez*, or *poinçonné;* in Latin *ponsatum*,—was a kind of ornament formed by *puncturing*, or pricking a surface with a point, and had been chiefly used in making diaper patterns in goldsmiths' work. Thus, in old inventions, we frequently find it applied to articles of plate: in the will of Joan, Lady Bergaveny, dated 1434, was, "my round basin of silver *pounsid.*" It occurred also, in the inventory of Sir John Fastolfe's effects, and even in that of Cardinal Wolsey. Pounced work was also of very frequent occurrence in the back grounds of richly illuminated MSS. of the fourteenth century—a very fine example was in the Arundel collection, No. 82, in the British Museum. It was also said to be found in the gilding of some parts of the Coronation Chair. But the occurrence of this work in monumental remains is very rare, only two examples being known in this country, viz., the monument of Richard II. and his Queen, in Westminster Abbey, and the brass of Thomas de Beauchamp, Earl of Warwick, now under notice. Punctured work, indeed, might be found in several brasses, but it was of a different character, and not applied to the purpose of ornamentation. Mr. Way found an example at Baden Baden, in a monument to Frederic, Bishop of Utrecht, who died in 1517. He is represented in armour, over which was a cope decorated with pouncing. These were the only examples he (Mr. W.) was at present aware of. The value, then, of this brass, as a specimen of monumental art, was not exceeded by any in the kingdom, and in respect to the work alluded to, he believed there was not another in existence. He would now point out those parts of the figures which were decorated in the manner alluded to, and for better illustration had sent a plate of the monument published in the work of the association. On the figure of the knight — the heraldic charges on his emblazoned jupon,—the fesse and crosslets being gold, were diapered; the fesse was a particularly beautiful specimen. On the circular plates which protected the junctures of the elbow-pieces, or *couder*, the badge of the *ragged staff*—the same was to be observed on the pommel of the sword, and was continued, also, on the scabbard, alternately with a sprig of flower. The scabbard of the dagger was also diapered, and the bear at the earl's feet had its hairy skin represented in punctured lines. The figure of the countess bore the arms of Ferrers, seven mascles, on her gown, all of which were most elegantly diapered, and on her mantle she bore the arms of Beauchamp, worked in a similar manner, and an ornamental border of the same round both garments. It was unnecessary to give a further description of the monument, his (Mr. W.'s) object being merely to point it out as one deserving of the greatest attention; but before leaving the subject, he would advert to its present unsatisfactory condition, "It is now covered with gilding, as I have before stated, and to such a degree, that it is difficult to make out the lines of the figures, still less the *pounced* work just noticed. I would, therefore, direct the attention of the inhabitants of Warwick, and those especially interested in its monumental antiquities, to the fact of this excessive gilding concealing the most important portion of the figures, and strongly advise its immediate removal. That the brass was originally gilt is very probable, but it would have been very thinly laid on; at all events, it would be far preferable to have it entirely removed, than that it should remain, to the detriment of the monument."

At the same meeting whereat the foregoing communication was read, Mr. Thomas Wright, A.M., one of the secretaries, submitted the following

NOTES RELATING TO ARCHITECTURE AND BUILDING, FROM MEDIEVAL MANUSCRIPTS.

"It was my intention to collect together a few notes from medieval manuscripts, illustrative of the arts of building and architecture among our forefathers, chiefly with the object of shewing how necessary it is, that those who would thoroughly understand the state of art and science in past times should make an extensive study of the literature of the age. That study is now rendered far more easy than it was, by the number of publications of old writings which have issued from the press during the last few years, and by the numerous helps which are now within the reach of all. In writings of a miscellaneous kind we often find precious scraps of information, which explain at once circumstances that have without them elicited the vain conjectures of a succession of modern writers.

Circumstances have hindered me from putting my intention fully into effect, and I therefore confine myself to pointing out two rather curious passages from the writings of Alexander Neckam, one of our most popular early, scientific, and educational writers, who was born in 1157, and died in 1217.

In a vocabulary, compiled by this writer for the purpose of teaching Latin to young scholars, published under the title of *Summa Alexandri Neckam de Nominibus Utensilium* (of which there is an imperfect copy in the British Museum, MS. Cotton. Titus D. XX.), Neckam describes in orderly arrangement all the different articles which came under common observation, in order to give their Latin names, which are often explained by an interlinear gloss in Anglo-Norman. In one part he gives a brief account of the process of constructing an Anglo-Norman castle, which I think will be considered as possessing some curiosity." Mr. Wright then gave some extracts which may be thus translated. 'If a castle is to be properly constructed, let it be surrounded by a double foss, and let the site of the place be strong by nature, so that the motte (or mound) may have a convenient support upon the native rock, or in default of natural advantage let the assistance of art be called in, that the mass of the wall constructed of mortar and stones may rise to a lofty work.

Upon this, let there be raised a rough hedge, which must be well defended with quadrangular stakes and sharp thorn bushes. Afterwards let the vallum be separated by large spaces, and let the foundation of the wall be joined into the native rock. Let the high walls be supported externally by columns (*i. e.* buttresses). And let the surface of the wall be made fair with a trowel, and have the smoothness of mason's work. The embrasures of the battlements must be separated by equal distances. The battlements must defend the tower, placed on an elevated spot, nor must there be wanting scaffolding to sustain the stones to be thrown (at the enemy).'

Neckam goes on to describe how the castle is to be stored with provisions and arms, and how it is to be put in a posture of defence, in case of threatened attack.

We have no perfect castles of the period to which this description belongs, and I think that it contains information which may help to set at rest one or two disputed questions relating to military architecture.

In another and much larger work of Neckam's, a kind of encyclopediac treatise, *De Naturis Rerum*, of which there is a fine manuscript in the British Museum (MS. Reg. 12, G. xi., fol, 79, v°.), we have a chapter (cap. clxxij.) *De ædificiis.*

The reader gave a quotation from this work, which has been thus translated:—'Let the face of the area be levelled with the roller, and let the inequalities of the surface be overcome by frequent blows of the beetle, and then let the solidity of the foundation be tried by stakes driven into the bowels of the earth. The wall next rises up, constructed with mortar and stone, according to the law of the level and plummet. And let the exterior of the wall be made smooth and even with the mason's trowel. But it is to be known that no walls, even when constructed of wooden laths, make equidistant lines. For let it be, that wooden walls be so constructed proportionally that they are not of greater thickness at the bottom than at the top, still the surfaces will not be equidistant.

For it necessarily should be, that the higher the walls rise from the ground, the greater distance be found between them. For since every heavy body naturally tends to a centre, you must understand that the walls tend to the centre of the earth, and you will find that the walls make an angle together. Do not you see how the rays proceeding from the axle of a cart are at a greater or less distance from each other until they join the circle of the wheel? So are the walls raised up towards the convex of heaven. A ceiling is placed on them, which must be kept clear of moths and webs. What shall I say of the ornaments of the ceilings and the paintings of the walls, except that riches produce folly?'

We have here the process of building a house, as we had before that of building a castle, and it is equally interesting in its details. But by far the most remarkable circumstance connected with it is the reason given for making the walls lean outwardly, because, *since every heavy body tends to a centre*, they ought to represent the radii of the earth. This principle, *that every heavy body tends to a centre*, is spoken of as one known to every body. We have thus revealed to us the extraordinary fact, that the doctrine of gravitation was known to Englishmen of science full 500 years before it was discovered by Newton!"

Who has not heard of

KENILWORTH?

The genius of Scott has made it a shrine for pilgrims from all nations. All who have wept over the sorrows of sweet Amy Robsart and shuddered at the villanies of Varney walk round the massive structure, now 'reft of all its ancient glory, with feelings of awakened interest. Apart from this charm which has been thrown over it, and from the beauty of the ruin and its position, it has great value in an architectural and archæological point of view, and was of course visited by the association. Founded by Geoffrey de Clinton, a Norman adherent of Henry I., the keep erected by him, and called, like so many other structures of that period, Cæsar's Tower, still remains, and though

> "Where mighty towers
> Uprais'd their heads in conscious pride of strength,
> Are smould'ring walls and tottering battlements,—"

may, with trifling attention, be still preserved for future restoration. We give a view of it in our present number,* with part of what are called Leicester's Buildings, on the left, as a slight memento of the day for those who were there on this occasion, and because it must have interest in the eyes of most of our readers. The semi-circular openings of the original structure were converted into square-headed windows when Leicester re-constructed and enlarged the castle. The Great Hall, though floorless, remains very perfect; and

"Where once the high-served banquet rose,
No fragment of a roof remains,
To echo back their wassail strains,"

is in other respects very perfect and might be restored without difficulty. None of the internal fittings remain excepting parts of two chimney-pieces now in the gate-house, one of which, of marble, was originally gilt. It is inscribed *Vivit Post Funera Virtus*, and with the general Italian arrangement and mouldings has Gothic panelling.

Kenilworth church, close by, has a fine Norman doorway, of which we shall give an engraving before long.

From this interesting spot it is but a short journey to *Coventry*, concerning which we shall have much to say in our next. We must content ourselves in this, with giving the following extract from an excellent paper by Mr. Wright, on the religious dramas of the middle ages, for the performance of which this city was remarkable, and known as

THE COVENTRY MYSTERIES.

The writer is speaking of entries in old corporation accounts, shewing how these representations were got up, and he says,—

"The records of Coventry are particularly rich in entries of this description, and a very interesting selection from them was printed not many years ago by Mr. Sharp, in a dissertation on this class of performances, which is now a rare book. From this source I will draw a few illustrations of the subject to which I have ventured to call your attention. I may observe that the collective paraphernalia of acting, the stage, its actors, and the stage machinery, were commonly termed a *pageant*."

"The circumstances of each actor being mentioned in the books by the name of the character he performed, leads to entries of a description so singularly naive, that they sometimes far exceed what we can venture to include under the appellation of burlesque. A few are even calculated to shock our modern notions of propriety. To quote one or two of those that are less digestible, we have in our early account of the wages of the actors,—

Item, paide to the sprytt of God, xvj^{d}.
Item, payd to the ij. angelles, viij^{d}.
Item, payd to the demom, xvj^{d}.

On another occasion, when they were, perhaps, acting the last judgment, we have numerous entries of wages, such as,—

Item, payd to iij. white soules, xviij^{d}.
Item, payd to iij. blakke soules, ij^{s}.

It appears that the white souls represented those who were to be saved, and the black ones those who were devoted to a contrary fate. There are several entries of payments for new coats for the soule.

Item, to ij. sprytts, xvj^{d}.
Item, payd to ij. wormes of conscience, xvj^{d}.

Under what form the "worms of conscience" were represented, it is not easy to conjecture. In 1573, among the payments of actors' wages (who in this instance are mentioned by name), we find entered,—

Paid to Fawston for hanging Judas, iiij^{d}.

This man acted another part on the same occasion,—

p^{d} to Fawston for coc-croying, iiij^{d}.

In 1578 we have the entry,—

p^{d} for a new hoke to hang Judas, vj^{d}.

The performers in these singular exhibitions wore masks on their faces, and they seem often to have had heads made for the occasion. The renewal and reparation of their articles, and the theatrical dresses (of which there seems to have been a large variety), form no small item of expense in the loan accounts, and are amongst the most amusing entries in the books. Thus we have,—

Item, for mendynge the develles cote.

And again,—

Item, for makyng the sollys cottys, iij^{s}.
Item, payd for the sprets of Gods cote, ij^{s}.
Item, a hat for Pilate.
Item, for mending the devyls hede.

Among other, and very numerous, entries of this description, are,—

In 1477. Item, for mendyng the demons garment.
1467. Item, payd for a stage for the demon, iiij^{d}.
1480. Paid for mendyng of Pilat's hat, iiij^{d}.

From a few stage directions scattered here and there through the manuscript of 'Mysteries' now extant, it would appear that the stage machinery, by which a part of the effect was produced, must have been very elaborate; and the entries in the accounts, though they give us but indefinite ideas of the form and manner in which this machinery was worked, prove that it was often both ingenious and expensive. In one instance, the different charges connected with making an earthquake amount to a considerable sum. Some of the entries of expenses of this description are droll enough, such as,—

payd for mendying the wynde, ij^{d}.

The winds appear to have been worked by means of ropes,—

payd for a new roppe for the wynd, xviij^{d}.

We have again,—

payd for iiij. pere of angyllys wyngys, ij^{s}. viij^{d}.

And,—

Item, payd for mendyng hellemowthe, ij^{d}.
Item, payd for makynge hell moth new, xxj^{d}.
Item, payd for kepyng up fyer at hell mothe, iiij^{d}.

And, in 1558,—

payd for settyng the world of fyer, v^{d}."

With which startling and, in our days, unusual catastrophe, we must conclude the present notice.*

ON THE DUE CULTIVATION OF THE FACULTIES FOR THE ARTS.†

By what means should a due cultivation of the faculties for the arts be performed, is a question that has not yet been satisfactorily settled. There has been much labour bestowed by pupils in the exercise of their faculties for the arts, but to little purpose. Even painters, sculptors, architects, and designers, in general are most deficiently taught. Artists should have as sound an education in languages, mathematics, the different sciences, as anatomy, botany, chemistry, geology, geometry, perspective, &c. as other professional men. The divine, the physician, the lawyer, &c. are instructed in many matters connected with their callings, and soundly also: so that a true foundation is laid in their minds on which the whole of their knowledge is based. According to the same system should artists in painting, sculpture, and architecture be instructed. But as division of manual labour is carried out successfully to a great extent, it is considered that mental labour may be also; consequently, we have historical painters, portrait painters, landscape painters, animal painters, architectural painters, and flower painters: and such division of artistic labour is in accordance with our varied mental qualities. But should the historical painters be unable to paint landscapes, portraits, animals, architecture, flowers, &c.? most undoubtedly they should have the ability to paint all objects well: and so should all the other artists paint all that belong to their individual subjects with equal truth. This is verified by the works of the early Italian, Flemish, Dutch, Spanish, and German masters. And there is no reason why it should not be so in this country. All that we require is a sound artistic education, and an encouraging public. But the public is at present unable to appreciate works of high art, and until that is achieved we cannot expect that encouragement which the importance of the arts demand. We must therefore educate the public in all that appertains to the arts, and establish in their minds true principles on which they may form a correct judgment, in order to know how and what to encourage. The public mind would then be greatly improved in all intellectual matters, and the nation enriched and elevated. But the legislature must devote its energies towards this important subject, and establish a system which shall contain true principles for cultivating the faculties for the arts, that no mental power may be lost, which no nation can afford. That true principles are not established for cultivating the arts is evident enough, in the system as practised in teaching drawing, and though there is some improvement in the present mode, yet it is by no means what it ought to be. The whole system should be revised, and perfected upon a natural foundation: the faculties for the arts would then be legitimately exercised, and accuracy of form, colour, texture, and light and shadow acquired. Until each faculty is exercised upon such natural objects for which each was intended, it will be vain to expect the power of natural representation; but, on the contrary, nothing further will be obtained than inaccuracy throughout the whole execution. Moreover, the mind will be barren of invention, not having acquired original materials, and consequently will have no power to produce original forms or combine new arrangements, for that which the mind has not received it cannot produce. Great inventors have always been great observers of the works of Creation, and investigators of the Creator's laws: without this knowledge we must rest content with being insipid imitators and servile copyists of works of art. The mere imitation of works of art, and particularly at the commencement of artistic instruction, will not lay a foundation for invention, composition, action, expression, colour, light and shadow, or form. The most elementary instruction should be natural, and therefore certain truths should be brought forward for construction, that the faculties for the arts may receive in its first impress such forms as exist, when a true impression would be made and the mind delighted with receiving its own—natural knowledge and natural faculties being made for each other.

But not so is the work of art of one mind, however great it may be, the most fit and proper object for a different mind to study from. Works of art of a high order are always the result of intense observation and study. The work is great because it makes an appeal to the spectator, and speaks, as it were, upon the subject which it represents; but not so with inferior representations—such only astonish the ignorant and disgust the wise. The faculties for the arts must not be corrupted by false representations being placed before them for imitation. False calculations are not placed before children to instruct them in arithmetic; their school-books do not state that twice two make four and a-half; then why should drawing books represent objects falsely, and be received as most fit and proper works for imitation—surely there is something very rotten in this state of things. As a truth in arithmetic is valuable, so should a truth in art be considered equally so. Parents should not consider that their children are instructed when the foundation of that instruction is defective. Rules of art should be as perfect as the rules of arithmetic. In fact all tuition should be true, otherwise it cannot be instruction.

It is now admitted that the faculties for the arts are to be as legitimately exercised as those of language, calculation, &c. The Marquis of Lansdowne and Lord Brougham have asserted, that those mental powers must no

* See p. 362, in present number.

* The paper on "The Coventry Mysteries," also one by the same author on "The Romance of Guy of Warwick," two very excellent papers by Mr. James Orchard Halliwell ("On the Library of Capt. Cox," who took part in the Hock-Tuesday play, performed at Kenilworth, and "On Traditional Anecdotes of Shakspeare"), and one by Mr. Crofton Croker, "On the probability of the Golden Lion Inn, at Fulham, having been frequented by Shakspeare," are reported at extenso in *The Warwick Advertiser*, *The Leamington Courier*, and *Aris's Birmingham Gazette*.

† Read at a meeting of the Architectural Association, Southampton-street, July 21.

longer be neglected, but cultivated as far as they are capable, and made by sound instruction as valuable to the person as their other educated faculties are. This is true philosophy, and though it comes somewhat late, yet better late than never. The rising generation will by such additional sound instruction be made a superior set of beings, as they will have several more highly important faculties cultivated than others in their early years have had, such mental powers being then considered of no importance, and not given by the Creator for specific purposes. It is now stated openly and broadly by those learned noblemen, that those faculties must be duly cultivated, that the human mind may be perfected according to its peculiar and individual nature. If this important point is kept in view and acted upon as it ought to be, we shall have the human race approaching originality, and not spoiled by being forced to receive what they cannot, or suffered to remain apathetic and inactive for the want of a due exercise. In fact, the whole mind should be as well exercised as the whole body. The right principles are resorted to for strengthening the body, but only partially so for strengthening the mind. No expense is spared, nor time, nor labour, for improving the physical condition of man and animals; but for perfecting the intellect, the right consideration has not been given.

And why should the different branches of the arts be slurred over as they so generally are in educational establishments? Are we to rest satisfied that form and colour are only worth an exercise of accomplishments, and that constructiveness is unworthy of a legitimate exercise in the different schools? Let any one who has a common understanding of those faculties, examine the drawings as they are called, that the pupils of both sexes bring home half-yearly, and they must conclude that so much paper, pencil, and colour had been destroyed; the mind injured, time wasted, and money thrown away. Such a loss of intellect is exceedingly discreditable to an intellectual nation. Our foreign neighbours do not act in this slovenly way in artistic instruction: but we do not like to adopt that which is good in our foreign neighbours' educational systems, because they emanate from despotism. Let us take the good from all, and leave the despotic qualities where we find them. It is evident enough that we are not right, or our manufactured goods would not be so defective in all artistic points as they are in form, and colour; and particularly as regards colour—the most frightful arrangements and contrasts are made. Indeed, they are too often so devoid of harmony, that on beholding such discordant and outrageous colours, we can hardly consider them as the productions of a civilized nation. That such unnatural and ignorant productions are the result of uncultivated minds in form and colour, there can be no doubt, and why those mental powers should be allowed to be so falsely exercised is this,—the producers of such unintellectual wares are ignorant of the principles on which such articles ought to be produced. They know not what are the proper and harmonious arrangements and contrasts, the apparent forms, light and shadow, texture, and the rules for producing them. Now, if the master manufacturers are not soundly informed upon these subjects, and therefore cannot pass a correct judgment upon their own goods, they must be left to the designer, who may have been incorrectly exercised in harmony of colour and truth of form. The master manufacturers ought to be masters of their art, and obtain sound artistic instruction, that they may know how their goods should be produced in true form and colour; they would then see that a true foundation should be laid in the minds of their designers, that they may produce such designs as would be in harmony with the minds of the purchasers, instead of their being disagreeable and painful, as they often are. That such bad art is being daily produced, the goods in our shops unfortunately show. To correct this evil, sound instruction can only effect the cure. Design which is invention will never be attained but upon a true foundation. Truth must be the beginning and the end, and geometrical construction must be the commencement of instruction in either branch of the arts, that the science of perspective may be well understood, for without such truths invention will never appear nor accuracy of form be attained. There is no greater folly than pretending to draw without this foundation, and though geometrical construction and perspective is the true foundation on which the drawing of all forms must be based, they must be taught in reference to real objects. All instruction should be given upon principles immediately derived from nature, when its application should be shown upon models or natural objects, and explained clearly in order to prove the truth of those principles. Without this knowledge, the student must expect to be always in confusion; and it is in consequence of the want of this valuable information that there are so many works of art that are false representations published, which is an evil of great magnitude, abusing the public mind by inducing it to believe in error instead of the truth, which to the uninitiated must work a serious injury, as all falsehoods will do wherever they are brought forward for public approval and encouragement. But the rising generation will not much longer be corrupted by false art, as they are to have their mental powers soundly exercised in artistic matters, and to a certain extent they will in time possess a certain judgment, and be enabled to distinguish accuracy from inaccuracy, which will oblige the producers of inaccurate art to become accurate, and no longer to abuse the public mind with their mischievous pretensions.*

THE GRANITE ROCKS OF EGYPT.†

The following facts in respect to the progress of discolouration on the rocks which are exposed to the current of the Nile at the cataracts, form an interesting sequel to the observations regarding the effects of time on the granite quarries of Syene.

From E'Sonan to the Island of Philæ, the bed of the Nile is encumbered with huge masses of granite, water-worn, and broken into separate piles of enormous boulders, which, shooting up from the level of the river of a conical form, look like giant *cairns* built up in the stream by some monster hands.

The surfaces of these rocks at their base, where they are washed by the river, are tinged of a dark brown colour, gradually increasing in intensity from the highest point reached by the inundation to the ordinary level of "low Nile." On examination, they are found to be covered with a very thin coating of a dark matter which adheres with the utmost tenacity to the rock. Humboldt and Darwin make mention of a similar appearance in other parts of the world; the latter gentleman having observed it near the city of Bahia at a point where a rivulet entered the sea. On this subject he remarks in his "Voyage of the Beagle," p. 12, "At the cataracts of the great rivers Orinoco, Nile, and Congo, the Syenitic rocks are coated by a black substance, appearing as if they had been polished with plumbago. The layer is of extreme thinness; and on analysis by Berzelius, it was found to consist of the oxides of manganese and iron. In the Orinoco, it occurs on the rocks periodically washed by the floods, and in those parts alone where the stream is rapid; or as the Indians say, 'The rocks are black where the waters are white.'" It cannot be doubted, that the cause of this discolouration is the contact of the water, and that probably it is produced by the adherence of certain of the particles with which the river is charged.

To the north-east of the Island of Philæ, there is a remarkable rock which forms a very prominent object in the landscape. It is a large isolated mass attached to the eastern bank of the river, and presenting a solid surface towards the island. This surface is sculptured with hieroglyphics, among which are several royal ovals or names of kings, on so large a scale as almost to be legible from Philæ. Several of these sculptures have been carefully defaced, and this in some instances has evidently been done for the purpose of substituting a new name in the place of the original characters—a circumstance which proves that these were looked upon as monuments of some consideration. I recognised the names of Thothmes III., generally considered to be the Pharaoh of the Exodus, of Psametik I., and of Psametik II.

The surface of the rock where those names are cut partakes of the dark colour communicated by the waters of the Nile, but being situated at a pretty high level, the colour is not of the darkest hue, as the Nile reaches so far only during the height of the inundation. The *sculptured* surfaces, however, hardly partake at all in the discolouration, although they have been exposed to the operation of the same causes since they were chiselled; indeed, it is this remarkable difference in colour that makes the sculptures so conspicuous at a distance. In the case of the name of Thothmes III., no less than 3,340 years have elapsed since the date of its execution. If, then, no effect has been produced in upwards of 3,000 years, how many ages would be required to produce that degree of discolouration which amounts to an absolute black?

These and the former observations on the quarries of Syene, prove distinctly that whatever alteration may have taken place comparatively recently on the surface of the earth in other parts, no very material change has been produced in the valley of the Nile for countless ages. The facts regarding the formation of the Delta of the Nile and the "petrified forest" near Cairo, lead to the same irresistible conclusion. "In America, as in Europe," says Mr. Lyell in his "Travels in America," "the oldest monuments of human labour are as things of yesterday, in comparison with the effects of physical causes which were in operation after the existing continents had acquired the leading features of hill and valley, river and lake, which now belong to them."

ARMY AND NAVY CLUB.

DECISION OF THE COMMITTEE.

Our readers will remember that six architects were ultimately selected by the committee to submit designs for the new club-house.* One of the six, namely, Mr. Clarke, having been forced by an accident to decline competing, Mr. Salvin was named to supply his place, and accordingly sent in drawings. The committee after examining all the plans, selected one by Messrs. Parnell and Smith, concerning which a letter from Count D'Orsay appeared in our columns, and referred it to Mr. John Shaw, one of the official referees, to report upon it. The report was satisfactory, and Messrs. Parnell and Smith have been commissioned to proceed. The elevation is based upon that of a well-known palace by Sansovino,

The late Mr. D. Mushet.—A somewhat curious paper warfare, in the shape of advertisement and counter advertisement, has of late been unhappily waged between divers representatives of Mr. Mushet, whose lamented demise we recently noticed. Subscriptions have been repeatedly solicited by "A friend of the family," towards the support of Mrs. Mushet and two grandchildren, the late Mr. Mushet "having been too ardently devoted to science to pursue his own exclusive interest. . . Not doubting that his country would handsomely provide for those he left behind." Donations, owing to 'unhappy dissensions,' to be addressed to the widow direct, or to her youngest son. But as repeatedly have such solicitations been repudiated by the eldest son of the deceased, who declared them to be totally uncalled for and unnecessary, as well as derogatory to his father's name and memory. Latterly, too, the acting executors of Mr. Mushet, Messrs. Charles Frederic Cliffe and George Roberts, have also denounced, 'with pain,' the 'solicitation of contributions from the public in behalf of the alleged destitution of his widow and her grandchildren;' the advertisement in question being "calculated to deceive the public grossly, by levying contributions, as a testimony to Mr. Mushet's eminent services in metallurgy, upon the false supposition that he has left a portion of his family without due provision for their maintenance. That on the contrary, Mr. Mushet, in his will, has made an ample provision for all the members of his family, to whom he has bequeathed a handsome property; and that Mr. Upton, who, upon erroneous information, first inserted the advertisement, has withdrawn his sanction to its further appearance; while Mr. Bald never, at any time, authorized his name to be attached to it."

* The remainder next week.

† From a Journal by Dr. J. B. Mitchell, still unpublished, of a series of travels, with Lord Eastnor, in the Turkish and other dominions,—Egypt, Syria, Palestine, the isles of ancient Greece, &c.

* See p. 279, ante.

VIEW OF THE KEEP, KENILWORTH CASTLE.*

THE LATEST EXCAVATIONS AT SALONA, —DALMATIA.—[May, 1847.]

A NEW POMPEII.

The systematic excavations of *Salona* cannot, as *some* say, be quite compared with those of Pompeii; still they are among the finest things attempted of late. This however, like so many other things, is not owing to any society, but to one man, Professor Abbate Carrara of Spalatro. Salona was, during Roman dominion, the capital of Dalmatia, and Constantine Porphyrogenitus estimates its extent at half that of Constantinople. Up to the end of the fifth century, art and civilization flourished on this part of the Dalmatian coast, which was, therefore, called *Dalmatia felix*. But in the year 639, Salona was taken by the Avari, and the palace of Diocletian converted into a shelter for fugitives. From that period up to the times of Charlemagne, all remained in confusion, as the barbarian Avares had destroyed all Roman cities. But even the art-period of that monarch was but of short duration. In the year 1672, Gian Giorgio Calergi made a survey of Salona, by order of the Venetian senate—which, however, like those made in 1821 and 1825, had no truth in them. The leading idea and the success of Professor Carrara's late labours, consist in ascertaining first, the extent and limits of the ancient city, to which other endeavours are made subservient. This he accomplished by commencing his labours *beyond* the actual traces of the walls all around the city, by which doing he discovered the old *gates*, and laid bare, as it were, the line of circumvallation in its very nakedness; and *thus* rendered the making of the plan a simple surveying operation. Every other mode of procedure would have been fallacious, as only the discovery of the gates and portals could lead to the direction of the main streets. The plan is now ready,* and exhibits the form of a truncated cone, and the broader line towards the east, is a prolongation of the original city, with which it was connected by a great interior portal. The old city rose successively to a great elevation, and the north walls are much higher than those towards the south, which extend along the river and the sea.

It is in the north-east corner of the city, where the excavation of the city walls is the most conspicuous. There are the ruins of the old gate which led through the Via Gabiana to Andentium, which bears the character of the known solidity of Roman construction. On continuing to proceed in this direction, it is to be seen, that the city had for its protection, square towers of divers size, from 12 to 98 feet in height. On looking on these, one would wonder how one of these ancient war-engines (*aries*) could injure such a building, if we did not consider, that if any of the corner or key-stones were displaced, the whole would lose its solidity and come down; thence the importance laid in Scripture on the 'corner stone.' To these Roman towers some more recent (barbarian) masonry has been added. The old structure consists entirely of large square stone blocks, some of ten feet length. In the barbarian structures, only the facings are of hewn stone, the interior consisting of rough materials and mortar.

On the north side of the city, near the wall, an interesting bath has been excavated, shewing clearly, that the oriental bath of to-day is the same as that of ancient times. Like in the present Turkish bath, the *mughtas* in the centre had its tube for conducting the hot water; the floor is of polished marble, the columns supporting the roof of oriental alabaster, and the mosaic, in one of the side cabinets, is as perfect as if completed yesterday. Near the bath, the gate which served as a communication between the old and new city, has been excavated and laid bare. The pavement is impressed with parallel traces of wheels, like in Pompeii, but the stones are longer and more used. The aqueduct was laid above the portal.

On the north-west corner of the city, lie the amphitheatre, which forms an ellipse 126 feet long, and is well preserved. The entrance is paved with stones, of which some are 10 feet by 4, and by a lattice-work (made of stone), the wild animals could be conveniently viewed. The use of stone and iron, is (in most cases), based on the climate, and certainly, the solid, sturdy walls of the Romans, are the best antidote against the heat of summer. The issues and stairs give a pretty clear idea of what the theatre has been; but as the greatest portion of its walls formed also the city wall, this may explain why it possesses no especial architectural ornament.

On the west side of Salona, lie the ruins of a gigantic structure, whose use and destination, however, are hitherto unknown to Mr. Carrara and other antiquaries, who had seen them. It is a wall 580 feet long, a cyclopic work, consisting of regular, square stone slabs, each of from 8 feet to 10 feet long. It may be the foundation of some huge temple, which further research can only duly ascertain.

It is within the precincts of the Temple of

* See p. 369, in the present Number.

* The present observations are made according to the MSS. of Professor Carrara, to be laid before the meeting of Italian scientists, at Venice.

WINDOW FROM LINLITHGOW CHURCH.

Diocletian, and quite close to the *Porta ænea*, that M. Carrara has established the Museum of Salona. The collection of domestic implements is rich and interesting. The melting of small metal pieces within the substance of glass, which was once thought to be a modern invention, is seen here to have been well known to the Romans. Many objects remind us forcibly of those preserved in the R. Museum of Naples. Of equal interest are the sculptures, amongst which the torsi of an Apollo and a *Venus victrix* are the most exquisite; other figures are of the kind to demand also here the establishment of a *camera obscena*, as there is one at Naples. As, in fine, this part of the ancient world has never been ransacked by antiquaries as were the sites of Athens, Rome, &c., the hope of Austrian antiquaries to have here something like another Pompeii, may not be altogether devoid of foundation.

We may conclude these remarks with some on *Spalatro*, derived from the latest researches on this interesting old Roman province. The general architectural aspect of this place is eminently Roman; and although it appertains to a later period, still it belongs to one where real art still flourished. Compared even with Rome, Athens, or Thebes, the sterling grandeur of the *Emperor's* times appears in all its integrity. The colonnade of Diocletian's Palace forms now the place of the cathedral. Of the rose-coloured granite columns of the peristyle not one is wanted; and to the left the Temple of Jupiter stands as intact as if just issued from the hands of the workmen. Up to the year 1829 the Temple of Jupiter was used as the cathedral of the archbishop. It was in a room adjoining the cathedral that Marc Antonio De Dominis discovered the colours of the rainbow long before Cantesius — a fact acknowledged by Newton. He subsequently came to England, where he was protected by James I. and Lord Bacon. Spalatro also will be now thoroughly examined and elucidated by the labours of Professor Carrara, to whose extensive memoir the antiquarian world may look forward with great interest.

TIMBER. — A powerful cylinder, of Sir William Burnett's construction, hermetically closed, has been laid down adjoining the sawmills in Woolwich Dockyard, which will admit the largest description of timber for the purpose of having the moisture extracted, and the pores filled with chloride of zinc for preserving the wood from dry-rot.

CURIOUS WINDOW IN LINLITHGOW CHURCH, SCOTLAND.

THE accompanying engraving represents a curious window in St. Catherine's aisle, Linlithgow Church, from a sketch taken by the late Mr. G. M. Kemp, who designed the Scott monument. Mr. Kemp says, in a note to Mr. Britton, accompanying the sketch, "this is more than likely the work of Cochrane, an architect whom King James III. of Scotland created Earl of Mar, which so excited the envy and jealousy of the nobility, that they ensnared him, and hanged him over Lawden Bridge with a hair rope."*

A DISCOVERY IN WESTMINSTER ABBEY.

SIR,—It will no doubt interest your antiquarian readers to be informed that in making the alterations now in progress in Westminster Abbey Church, the supposed tomb of St. Edward has been discovered, at least such is the opinion of some of the abbey dignitaries. This tomb is situated exactly in the centre of the cross, it is rectangular, eight feet long,

* See Note 13 to Canto 5, in Scott's Marmion.

east and west, five feet wide, north and south, and two feet three inches deep. The bottom is formed of concrete, the sides and ends of rubbed stone, and it was originally covered with a slab six inches thick, but the covering disappeared ages ago, and the tomb has remained filled with rubbish.

Let no one, however, imagine that this is the original tomb of the Confessor. It is stated by the oldest authorities, quoted by Widmore, that St. Edward was buried beneath the high altar, that his remains were afterwards removed to a higher place, and then again to another still higher; while no doubt can possibly exist that his dust still reposes in the shrine prepared for it by King Henry the Third.

This crux will receive considerable elucidation from three facts: 1st. That the floor of the Confessor's church, as I ascertained some time ago, was much lower than the floor of the present church: 2nd. That the medieval architects most carefully preserved all consecrated remains of whatever kind: 3rd. That the present church is raised upon the debris of a former edifice, some of which are formed with fresh lime into concrete.

St. Edward was unquestionably interred near or probably beneath the relics contained in the high altar of his church, for such is usually the position of a founder's tomb, and it may be fairly inferred that the tomb just discovered was only the temporary resting-place of the bones of the Confessor, and of the relics which he had obtained in his visits to the continent.

The demolition of the Confessor's church, and the erection of the present noble edifice, were probably going on for years before divine service ceased to be celebrated at the altar of St. Peter; but when the new church had so far advanced, that the level of its floor was determined, and the destruction of the remaining portion of the old church became necessary, for the continuation of the works; it was then that the tomb in question was probably prepared as a receptacle for the bones of the saints, until their appropriate places in the new church were arranged. Nearly two hundred years after the death of the Confessor, his remains were removed by Henry the Third with extraordinary pomp, to the once magnificent shrine they now occupy. The old shrine was thus left vacant, and now, after the lapse of six centuries, it is presented to our view as the most appropriate spot that could be conceived for the mortal portion of the most illustrious men of modern times.

Now, Sir, Nelson put a stop to the wars of Europe by sea; the idea which fired his mind on rushing to battle, was "Victory, or Westminster Abbey!" but carelessness or indifference to the hero's aspirations decreed a public funeral in St. Paul's! Wellington put a stop to the wars of Europe by land—there will be no more wars—the playing at soldiers may be iniquitously continued for state purposes—but there will be no more wars, the machinist and the chemist would enter the field and mow down like grass in a few hours the finest army that ever stood before the sun, and render war an impossibility. Here, then, Sir, is my proposition; on the death of Wellington, I would inter his corpse in the vacant tomb of St. Edward, and I would translate the body of Nelson to his side in the same tomb. The sides of the mausoleum should be raised 12 inches from the floor, with slabs of glass, and top covered with two slabs of polished transparent glass six inches thick; but lest this mausoleum should be too dazzling, it might usually be concealed by a rich carpet. Thus enshrined in England's very heart of hearts, in the tomb of a saint and king, would superbly repose the ashes of those heroes who were at once the latest and the greatest benefactors of mankind.

I am, Sir, yours, &c.,

William Bardwell.

4, Great Queen-street, July 26.

CLAY-BUILT WALLS.

Having read in two or three of your valuable papers, some questions and answers upon the plastering, &c., of clay walls; and in The Builder of this day, your correspondent, "An Old Architect," having described the French method of building, I am induced to give your readers two methods, as adopted years ago in Suffolk and Essex. I well remember upwards of thirty years ago being employed by a very eccentric character to finish the walls of a barn, after several bricklayers who had worked upon them had refused to do so any longer, in consequence of the hardness of the work. I had to carry the walls up about ten feet in height from where they left off, and hard work indeed it was, having to stand upon the walls to raise the quoins, to bed and lay the clay lumps. These were composed of clay and chopped straw, well worked together, and dried after the Egyptian method, in the sun; the dimensions of each lump or brick was, to the best of my recollection, two feet long, one foot wide, and nine inches thick. The bed of mortar I used was about three-quarters of an inch thick. The walls when up were well protected by projecting gables and eaves, and limewashed only. The foundations on which they were laid, was of rubble work, but for cottages, barns, or any other building, I should recommend, on a proper footing, a brick foundation of the same thickness as the clay bricks intended to be laid upon it, carried up high enough to keep out rats, mice, &c. The clay walls built by me stood well on the outside without plastering; in the inside they were damaged by rats and mice. I do not consider them fit for barns, in consequence of the soft nature of the clay, but in order to prevent the plastering peeling off cottage walls, whether inside or out, I believe if a proper quantity of fine shingly stones, say through a quarter-inch diamonded sieve, be well mixed and beat up with the clay and straw, it will materially tend to harden the bricks, and as well prevent vermin so easily introducing themselves into the walls; and if they were roughed over on being taken soft from the mould, similar to a first coat of plastering on the two faces, the plastering, whether a thick coat or thin, externally or internally, would have a far better key to keep it on than by having a face of the clay only to be laid upon. The barn I have alluded to stood several years, would have stood many more, but was pulled down from the property changing owners. I have seen cottages in Essex which were built between thirty and forty years ago, of clay puddled, that is, used in a very soft state, between a case of boards. They were then plastered over, and are now standing, occupied, and in an apparently sound state. I might have added more upon the subject, but not wishing to trespass upon the columns of The Builder,

I am, Sir, &c.,

A. J. Green, Bricklayer.

Sudbury, Suffolk, July 16th, 1847.

THE TUBULAR BRIDGE OVER THE MENAI STRAIT.

The interest with which this enormous undertaking (to be called the Britannia-bridge) is watched, leads us to give the following extracts from a note book, inserted in the *Manchester Examiner*:—

"If we suppose ourselves stationed in a boat in the middle of the Menai Strait, a few hundred yards distant from the new bridge on the south side, and suppose it finished, we shall see a wonder of the world of this kind; first, there is the middle pier rising out of the water founded on the Britannia rock, from which the bridge takes its name; this rock can be seen at low water; it is covered at high water. The breadth of this pier is 62 feet by 53 feet, and ¼ inch. The blocks of stone are 7 and 8 feet long, by 3 and 4 feet in breadth and deepness, and they rise stone upon stone, until the pier is 230 feet high.

At the distance of 460 feet on each side of this centre pier there rise, near to the water's edge, two other piers of the same gigantic breadth and height; while, on each side of these two piers, at the distance of 250 feet, there rise two walls. Continuing outwards, the wall on our right hand on the Carnarvon shore does not extend its ponderous bulk far back, for the land is high and bold, and the railway comes along its elevated brow, and at once lays hold of the bridge; but on our left hand, which is the Anglesea shore, the wall is the forehead and end of a mighty embankment, on which the railway is raised to the level of the bridge.

There, then, are the four spaces before us, across which, in the iron tubes, the railway is laid, viz.: two spaces on each side of the centre pier of 460 feet each (let the reader measure 460 feet on a street or on a road, and he will wonder at the vastness of this structure), and two more spaces of 250 feet respectively at each end. The tubes are eight in number, each of them 30 feet high on the exterior side, and 27 feet high in the interior; each is 14 feet wide, and they are laid in couples parallel to each other. Taking ourselves in our boat underneath the bridge, and looking up, glancing from the Carnarvon side of the strait, we see two tubes, rather, we should say, masses of iron, for they do not seem to be tubes, lying side by side from the wall already named across the space of 250 feet; they have each a hold upon the stone-work, several feet at each end, and they rest upon moveable rollers and balls made of gun-metal, the hardest known; those rollers and balls resting on beds of metal, and moving outwards or inwards as the massive tubes of iron expand with heat or contract with cold.

Next we see two others of the same height and width, viz., 30 feet high, and 14 feet wide, lying side by side across the next space of 460 feet, and resting on the masonry as the others. Thirdly, we see two more lying side by side across a space of 460 feet; and lastly, two crossing the space of 250 feet. In the whole, with the breadth of the piers and the landward buildings, the length of the bridge is *one-third of a mile*.

In height the three piers are, as already said, 230 feet, but they are 70 feet higher than the tubes; these are so massive, that their actual elevation above the water seems less than it really is; and so dead and inelegant to the eye, that it was necessary to raise the piers 70 feet above them, to give a shew of elegance to the structure. Measuring from low water mark to the bottom of the tubes, the height is 130 feet—the tubes being 30 feet on the side, and the piers 70 feet above their upper surface. As ornaments to the two walls which rise upon each shore, are four lions, two at each end of the bridge; the lions contain about 8,000 cubic feet of stone. They lie couched, and yet the height of each is 12 feet; the greatest breadth across the body is 9 feet; the length 25 feet; the breadth of each paw 2 feet 4 inches. As we are now so high as to see the lions in detail, we may look into the interior of the iron tubes. They are made of plates of iron, of various thicknesses, rivetted together; the iron increases in thickness as we proceed towards the centre. We now see that the roofs of the tubes are formed of cells, and also the floors; those cells are formed of iron plates set on edge, the cells of the roof being within a fraction of 1 foot 9 inches square; and those of the floor being 1 foot 9 inches wide, and 2 feet 3 inches deep—the rails on which the trains run are laid on those cells of the floor. The flat bottom, the two upright sides, and the flat roof of each tube are formed of plates, the thinnest of which is ¼ of an inch, and the thickest 12-16ths of an inch; but the number of them laid together, and the internal joinings, cannot be yet explained. The weight of each of the four long tubes will be about 1,300 tons; the weight of each of the four short ones about 600 tons—in the whole, there will be at least 7,600 tons of iron used. No contracting estimate of the expense of the iron part of the work has been made, as the work may cost more or less, according to circumstances. The masonry was contracted for by B. J. Nowell and Co., at 130,000*l.*; but, from alterations in the plans, it will cost (suppose no further alterations be made), 200,000*l.* They expect to finish the masonry by August, 1848,—it will contain one million and a half cubic feet of stone.

When I was there in May, fifty vessels of 60 or 70 tons each, were employed in conveying the stones to the works; the red sandstone, of which the inside courses are built, from Runcorn; the blue limestone, of which the outside courses are built, from the sea shores of Anglesea. The quarries on the Anglesea shores, opened for this work, extended over 20 miles. In the whole, there were 1,300 men employed, 600 of them at the bridge, the fortnightly wages of the latter amounted to 1,300*l.*; 3,000 cubic feet of timber had been used at that time for stages and scaffolding. Two steam-engines were at work on each shore, and a third was being erected on the Britannia rock, in the centre of the Strait, to hoist

the stones, grind mortar, saw timber, and perform other heavy work. On each shore there was a lime-kiln, the chips of the limestone falling from the irons of the hewers being burned into lime, and the chips of the red sandstone being ground to powder to make mortar with the lime. There were seventeen gauntries, with travelling crabs on each, for moving the blocks of stone; railways diverged and converged on which trucks ran along, and every heavy weight in the building of this wonderful structure was moved as if men were gods, who only willed that huge blocks should take motion and they took it.

The building of the iron tubes had not then begun, but the stages upon which they are to be built were erected, extending along the Carnarvon shore about a quarter of a mile. The plates of iron are in preparation at different places in England and Scotland, and they will be conveyed separately to Wales, and put together on these stages.

NOTES IN THE PROVINCES.

The charges and expenses paid by her Majesty's Commissioners in the execution of the Acts of Parliament for building and promoting the building of additional churches in populous parishes from 25th March 1846, to 25th March 1847, (ordered by the late House of Commons to be printed a few days previous to its dissolution,) amounted to 3,773*l.* The secretary receives a salary of 700*l.* and the surveyor a similar stipend.——The carpenters at work on the Ipswich Museum, have proceeded to roof the buildings; the completion is expected about the end of September.——A subscription movement for the restoration of the South Chapel of St. Martin's church, Leicester, is making progress; extensive repairs are requisite both there and in other parts of the church; those of the chancel are now proceeding. A lightning conductor of the patent wire rope description manufactured by Messrs. Andrew Smith and Co., has been attached to the spire.——The chancel of Heather church, which was to be reopened on 27th inst., has been entirely rebuilt, and a north aisle added. The old apology for a steeple has been taken down, and replaced by a tower, with large ornamental pinnacles, which, from the peculiar whiteness of the Normanton stone, forms a striking object for some distance. The church consists of nave, with clerestory windows, north and south aisles, and spacious chancel. The aisles are fitted up with low pews, and the nave with open free sittings. Both the chancel roof and the nave are open to the rafters, which are stained a dark colour.——The works towards the rebuilding the parish church of Cranoe are now rapidly progressing, under Messrs. Thompson and Ruddle, of Peterborough, builders, whose contract amounts to 1,185*l.* The foundation-stone was to be laid some time this week, by the Earl of Cardigan. The funds, according to the *Leicester Journal*, are still very deficient.——The amount subscribed for public baths, &c. at Birmingham, according to the *Journal*, was about 6,000*l.* The buildings will be commenced as soon as the land purchased by the committee is transferred to the town council. The money will then be returned in full to the subscribers.——The governors of the new Free Grammar School to be erected at Walsall, in place of the less commodious one purchased by the South Staffordshire Railway Company, having selected six architects to submit competition drawings, lately decided on the plans of Mr. Edward Adams, as meriting the first premium offered, and those of Mr. Frederick Emerson, of Birmingham, the second.——The first stone of the rebuilding of the parish church of Llanwnda, near Carnarvon, was laid on 21st inst. The architect is Mr. G. Alexander, whose design for it is cruciform, with a circular chancel, a western bell turret, and accommodation for about 300 persons. The churchyard is also to be enlarged. The works have been let to Mr. W. G. Thomas, and Mr. L. Williams, both of Carnarvon.——On Friday last, the foundation-stone of large and important ironworks was laid at Saltney, near Chester. The structure is being erected by Messrs. Henry Wood and Co. Mrs. Wood laid the stone under the auspices of Mr. Welch, the architect.——A new machine for watering streets is in operation at Birkenhead. The novelty consists in its watering the whole width of the street at once—a recommendation when the machine has exclusive possession of the road.——The north area of the Custom-house, Liverpool, has been fixed upon as the site for the statue of Huskisson, which has been presented to the town by his widow.——The Runcorn docks were last week visited by a Russian trader of 500 tons (heavy goods) burthen, with a cargo of chump wood from Russia, to be prepared, by the newly-invented cylinders, for railway sleepers. The quantity of pig iron thickly deposited on the dock landings is said to be computed at not less than 5,000 tons, besides a great number of iron rails.——The first stone of the Church of England schools at Sudbury was laid the week before last.——The Leeds Water Works Bill received the royal assent, after a severe struggle. Important results, according to the *Intelligencer*, are anticipated from the great additional resources which Parliament has thus placed at the disposal of the company.——The contract for excavating the principal dock at Sunderland, building the sea wall, and completing the large basin, comprising an area of twenty-two acres of water, was let a few days ago to Messrs. Craven and Son, the contractors, from Staffordshire, for the sum of 135,000*l.* This undertaking is expected to be finished in the summer of 1849.——The Newcastle and Gateshead Sanatory Association appear to be actively at work in a good cause. They are making strenuous endeavours to enlist the working classes in the furtherance of that cause, and have been petitioning the authorities of both towns for the enforcement of the bye-laws of the Improvement Acts for the removal of nuisances, one of which in particular, a source of numerous cases of fever, they have themselves pointed out. The sentiments of the new candidates for the parliamentary suffrages on the subject of sanatory reform, are also to be elicited; and the association is endeavouring to obtain the free use to the poor of the warm water now running to waste from the condensers of steam-engines, and to suggest the best means of abating the smoke nuisance.——A great sanatory fact is at present being exemplified in Glasgow. While fever rages around the prisons, these, containing about 600 inmates, have not one fever patient. This, as a contemporary remarks, is at once a reward to the friends of prison discipline, and an encouragement to those of sanatory advancement.——The profits of cleanliness are exemplified by the facts, that in Aberdeen the streets are swept every day, at an annual cost of 1,400*l.*, and the refuse brings in 2,000*l.* a year; and, that in Perth, where it costs 1,300*l.* per annum, it sells for 1,730*l.*

THE PAINTINGS IN ETON COLLEGE CHAPEL.

The following particulars relative to the mural paintings recently discovered in Eton College Chapel, from one who has been employed in delineating them from the period when they were first restored to light, may be relied on.

A few fragments only were at first rendered visible, in taking down some of the modern tablets; but on removing the wainscot of Sir Christopher Wren, to make way for some handsome carved stalls, in accordance with the restoration now in progress, a complete series of paintings were made manifest, in a much better state of preservation than is usually found, and in a style of art very superior to any others of their kind hitherto seen in this country, at least of so early a date as that to which they bear evidence, viz., the middle of the fifteenth century, or from the time of the completion of the chapel, in the reign of Henry VI., to that of Richard III. They are not "frescoes," being painted in distemper on the bare walls, without plaster of any kind, though there are indications in many parts where the colour has been rubbed, of a sort of red priming underneath, used partially, apparently to keep the moisture from damaging them by penetrating the joints of the stonework.

The series commence from the western arch as you enter the main body of the chapel from the Ante-Chapel. They consist of two rows of subjects, at about 6 feet above the level of the floor, and were continued originally, no doubt, up to the lower line of the string-course under the side windows; but the upper subjects in general have had the superior parts completely destroyed. Enough, however, remains to shew that there have been originally sixteen complete pictures on each side, eight above and eight below, in honour of the Virgin Mary, to whom the chapel was dedicated; the subjects taken from the "Golden Legend of the Saints," and a work by Vincentius (a writer of the fourteenth century), entitled "Speculum Historiale," as cited in the black letter titular inscriptions under each. They are divided laterally into compartments by painted representations of statues, in canopied niches; the lower row representing female saints; those of the upper row, like the pictures themselves, are very much obliterated. Branching from the niches horizontally, is a species of frame-work, dividing the upper and lower compartments, and bearing the black letter inscriptions before mentioned; the whole forming an interesting example of the arrangement and execution of mural paintings of the fifteenth century, and of the ideas, as well as costume, of our ancestors of that period.

R. H. Essex.

13, York Buildings, New Road.

DECORATIVE-ART SOCIETY.

HERALDRY.

At a recent meeting of this society, a paper on heraldry was read by Mr. Partridge. Heraldry was explained to be an organization of emblems and devices which must have existed from the earliest establishment of order and civilization among the human race; and various passages, containing records of and allusions to its symbols were quoted from Biblical History, shewing that it had been the medium adopted for distinguishing friends from foes, nation from nation, and tribes and families from each other. The reader also quoted passages from Homer, Hesiod, and others, describing the shields of their heroes, adding, that the shields of Achilles, Æneas, and Hercules, had, in his opinion, been described with poetical license; but, nevertheless, supplied evidence of the custom of ornamenting shields in the richest manner of the arts of that period. He likewise considered as fabulous, the descriptions given by the Jewish Rabbi of the standards pitched by the tribes of Israel. Some references to the subject during the Roman era were followed by observations upon the great change made in the institutions of this country by William the Norman, who modelled his court as far as practicable after that of Normandy, and who therefore introduced three very remarkable officers, whose duties were strictly heraldic, viz., the great constable, whose authority in matters of war and chivalry, both in France and England during the Norman and Plantagenet reigns, was little less than that of the monarch;—the great marshal was an important dignitary, whose influence was at its zenith at the time of the Conquest, and the office still remains through all the changes of legislation and government, one of great power and influence;—the third office, being perhaps the most singular of any adopted by the Conqueror, was that of champion. Mr. Partridge traced the hereditary descent of the championship from Marmyon, who received his appointment, with the manor of Scrivelsby, from William, and quoted verses from an ancient poem, in which the changes in the families of Marmyon, Ludlow, to Dymoke, the present champion, are set forth. He then referred to Camden Guillim, Sir Henry Spelman, and other eminent authorities, shewing, that although many of our noble families can prove their descent from before the time of the Crusade, yet their arms or heraldic bearings had not then become hereditary. After the crusades, it was accounted honourable to display those signs which had been borne in the holy wars, and hence the descendants treasured them as their hereditary arms; and the opinion of Lord Chief Justice Coke was quoted, shewing that he considered this one of the strongest proofs of a noble and worthy origin.

Mr. Partridge then recited the "Roll of Carlaverock, a record in old Norman French, of the names and arms of the leaders who served under King Edward I. at the siege of Carlaverock Castle, Scotland, in 1300; and

explained that at that time, heraldry was embodied as a science as nearly as possible to its form at the present day. Tournaments were alluded to as an important means in sustaining the dignified bearing and accurate transmissions of armorial bearings down to the time of Elizabeth, when the establishments of the College of Heraldry, and the visitation made under its direction, created a broad distinctive line between the ancient families and those who have risen to greatness by the increase of civilization and wealth since that period. He next drew attention to those arms and mottoes which, from their relation to names, have been ordinarily considered and termed "punning-arms," but which, he said, had been practised in remote antiquity, when names had a symbolical source and meaning. He mentioned several names derived from important official duties, such as Usher, Butler, Stewart, &c., in which cases the previous family name had been disused, as also that of Godolphin, in accordance with the signification of which a white eagle is adopted as the crest by that family; and this was followed by notices of others of a similar nature. The reader then proceeded to shew, that the great poets of modern Europe have fully appreciated the value of heraldric distinctions, and said, that in the descriptions of their heroes they are usually as heraldically correct as they are poetically beautiful; and referred to, and quoted parts from, Tasso's "Jerusalem," Shakspeare, "Wars of the Roses," &c. Important allusions in many family mottoes, &c., were illustrated, and he then brought the subject to a general summary by maintaining, that the detractors of heraldric science are bound to admit one of these two things, either to prove that all the honours and distinctions which the sovereign of this or any European state can bestow on eminent men are trash, or else to admit that heraldry is one of the most important institutions of civilized Europe, as being the recognised medium by which the sovereign, the fountain of honour, bestows those honours on men who have deserved well of their country.

RAILWAY JOTTINGS.

The *Liverpool Albion*, amongst other suggestions embodied in an article similar to our recent one on railway accidents and their prevention, describes a plan for breaks, originated by Mr. D. Crawford, civil engineer, Birmingham. Mr. Crawford proposes to apply to any number of carriages breaks in connection, and set them altogether in motion by a mechanical force on the last carriage in the train. The engine-driver or the guard may in a moment work the same, as they see occasion. By means of springs, like buffer-springs, the retarding force is distributed equally on every wheel of every carriage. The breaks can also be partly used.——The *Chronicle* describes a somewhat similar invention, by Mr. Davies, coach-builder in Wimpole-street, Cavendish-square, for the prevention of collisions, which has been already tested, it is said with success, on the London and North Western line. On this plan the four wheels of each carriage are firmly grasped by breaks acting at opposite parts of the circumference, so that they are really suspended within them, and the chance of damage to the action is obviated by each break destroying the strong vibration which the adjacent one would otherwise generate. The train, therefore, glides, to all intents and purposes a heavy sledge, the great weight of which occasions such an enormous reduction in the velocity, as to bring the momentum of the train within limits, should the time for preparation become greatly shortened, which might be reduced to the action of the buffers.——We have also to record another of the thousand and one suggestions of practical ingenuity for the safety of the public. For the prevention of the tendency of carriages in a train to 'double up' in collision, a correspondent of our own, 'A Young Surveyor,' proposes that a triangular, or dovetailed rod of strong oak, be made to slip in and out of a correspondent orifice in a triangular box, made also strong with iron straps, and even also with double iron dovetails, set into each of its three corners. That the triangular oaken rod or bar be affixed to the front of each carriage, while the correspondent box, into which it is to slip, is affixed to the rear of each other carriage, both being placed in such a way, as our correspondent is willing more particularly to detail, that, while the buffers are being brought into action during collision, or other resistance to the onward impetus of a train, the one will slip into the other, and in the conjunction all tendency of the carriages to jump or double up is thus to be effectually prevented.——So much for safety and facility in stopping trains. We have now to record a new invention or rather discovery for facility and safety in the motion of trains—a sort of grease or rather substitute for grease, invented, as might be anticipated, by one of those go-a-head Americans, who would grease the lightning itself if they could. The material in question consists of water and an anti-attritious composition, which will save nearly 90 per cent. in the cost of oil or grease, besides rendering the heating of axles impossible. The invention is patented, and has been tried, it appears, on an American line, with a train running at the rate of 20 to 30 miles an hour, with axles 'quite cool.'——Meantime, however, the feeling of insecurity which has been generated in the public mind, by the frequency of accidents and the inability of directors—as Mr. Hudson has it—to discover or invent any means for their prevention, has been so unequivocally manifested, that what *Punch* not long since jocularly recommended, has been in earnest set agoing,—namely, a 'Railway Casualty Compensation Company,' who, on prepayment of certain premiums, are to give so much (200*l.*) for a broken limb, so much (500*l.* to 3,000*l.*) for a broken back or 'fatal injury,' and so on: premiums also to be taken to ensure compensation for life, or till the 'silver cord' *be* broken.——The journey from London to Southampton,—78 miles,—is now performed on the South-Western daily, in 105 minutes, so that the average rate of speed, including stoppages, is a mile in 1·3 minutes.——The public opening of what is held to be the most difficult portion of one of the most difficult railways in the kingdom, viz., the 8¾ miles from Newton to Totnes, on the South Devon line, took place on Tuesday week. There is scarcely a furlong of straight road on the 8¾ miles between Newton and Totness. The section is, in fact, one series of curves.——Two bridges, connected with the Bodmin and Wadebridge line, at the junction with the Cragley, were swept away by a flood during a thunder storm on Friday week. It surely would be well to *calculate* on thunder storms and consequent floods in a climate such as ours; but unfortunately the *strength* of structures is much more frequently calculated according to the resistance of the screw applied by competition, and the directorial desire for cheap and hasty construction, than by any other considerations.——An additional test of 100 tons, says the *Gateshead Observer*, was lately added to the load previously sustained by the river arch now completed at the high level bridge across the Tyne. Not the slightest strain however was perceptible, it is said, at the junctions of the several segments composing the 'bow and string' cast-iron ribs, where any failure would most likely shew itself. Each of the six arches, of 125 feet span, to constitute this bridge, being self-supported, will require to be tested separately. The string which subtends the base of the bow or cast-iron ribs composing the arch, and acts internally, instead of external abutments, consists of a series of wrought-iron plates, linked together in the form of chains. The whole is to stand on stone piers, and provision will have to be made, of course, for any change that may take place in the iron from change of temperature.——On the Stockton and Darlington line, weekly tickets are granted, for 12s. each, enabling the holder to travel to and fro, between Darlington and Redcar, as often as required, instead of a payment of 6s. each trip, to and fro. As remarked by the *Gateshead Observer*, the directors deserve great credit and good dividends for their liberality. They also deserve to be imitated as exemplary patterns by other directors.——The foundation-stone of the bridge over the Nith, near Dumfries, on the Carlisle and Glasgow line, was laid on Friday week with Masonic honours and high holiday proceedings.——The permanent way of the Caledonian line is laid in many important parts, and the greatest activity continues to prevail along the whole line, much of which, it is expected, will be opened by the middle of October, and the greater portion in course of the present year.——The London morning papers now travel to Edinburgh on the same day, and the Edinburgh papers, containing their news, return to Newcastle on the following day! The age of miracles has indeed returned. An honest 'philosopher' who would have prognosticated the advent of such a miracle five-and-twenty years ago would have run the risk of being 'precognosced' as a lunatic, if not incarcerated as such for life, or at least till the advent of our own more enlightened era. Doubtless we have equally honest and truthful, and equally discredited 'visionaries,' labouring, at this moment, to enlighten our own remaining darkness.——The Emperor of all the Russias has just adopted the project of a vast railway, which is to join his three capitals, Moscow, St. Petersburgh, and Warsaw. The terminus is to be the fortress of Warsaw. The precise plan is not yet decided on.

TO CALCULATE THE TAPER OF SPIRES.

Sir,—Will you be so kind as to shew me a simple way to calculate the "taper," per foot, of pinnacles and spires, when the diameter of the base, the height, and the diameter of the top, are given?

I am, Sir, &c., J. H. D.

Say for example, base of spire 24 ft. 6 in. diameter; apex, 10 in.; height, 122 ft. 6 in.

To calculate the taper per foot.—Say, as the whole height is to the whole taper, so is one foot of height to the quantity of taper per foot.

The whole taper is equal to half the difference between the diameters of the base and top of the spire; that is

(24 ft. 6 in.—0 ft. 10 in.) ÷ 2 = 11 ft. 10 in. the whole taper; then it is,—

Whole height .. 122 ft. 6 in. = 1470 in.
Whole taper .. 11 ft. 10 in. = 142 in.
One foot in height..... = 12 in.

Hence we have 1470 : 142 :: 12 : 1·159 inch, the taper for each foot in height.

THE IRON TRADE.

Notwithstanding the assurance of the iron masters, or their authorities of the press, that no alteration of previous prices for the *worse*—as they have it—was sustained at the late quarterly meetings, it now appears that "in consequence of a number of the iron masters of Lanarkshire persisting in their resolution of reducing the wages of their workmen at the rate of 1s. per day, *because of a fall in the price of iron*," the operatives in some of the works have ceased working, and are now being supported from the funds of their association, which, we believe, says a Glasgow paper, is a strong and well-organised union. The men, it is said, are willing to submit to a slight reduction, say 3d. or 4d. a day, but seem resolved not to work on the terms proposed by the masters. The effect is, that furnaces are blown out in many of the mining districts—the men are at present going about idle, and the masters are taking measures for ejecting them out of their houses.——At the Wolverhampton police-office, on one of these late melting days of heat, five puddlers were brought up for absenting themselves from work without permission, whereby a loss to their employer, Mr. Baldwin, of 50*l.* had been incurred. The men pleaded "the excessive heat of the weather, which rendered it quite impossible for them to work." Mr. Barker, the worthy magistrate of police told them they had no right to suspend the work, which they had thus declared it to be impossible to go on with, unless the sanction of their employers had been obtained! Necessity has not seldom been transmuted into a virtue, but Mr. Barker has in this case the merit—not an original one certainly—of converting it into a vice. The five unfortunate puddlers, thus turned out of the frying-pan into the fire, were accordingly found guilty of not doing what it was impossible to do, and they were accordingly committed to hard labour for a month!——The heat seems to have somewhat puddled the brain of another unfortunate puddler at Wednesbury about the

same time; for he too was brought up at the 'public office,' on the somewhat odd charge of endeavouring to improve his employer's 'pig-iron,' or give to it some useful quality in which he probably thought it deficient, by throwing into a 'donkey' of it, a quantity of good tough bar-iron, whereby a loss of about 10*l.* *might have been* sustained by his employer in purse, whatever excellence or celebrity it might have given to his 'donkey' of 'pig.' The puddler, Elijah Green, was only summoned for summary punishment, but "*as* it came out that the bar-iron used was the property of Mr. Barker (the 'donkey' proprietor in this case, rather oddly, and not the Barker of the police bench in the other case), the magistrates considered the offence of a felonious character," and committed the prisoner for trial at the sessions. Are we to presume, then, that if the bar-iron had belonged to any one else but the proprietor of the pig itself, thus benefited in quality, the offence would *not* have been of a felonious character? Or was it supposed, till the truth 'came out,' that the puddler was green enough, or rich enough, or génerous enough, —but why in such a case *guilty* enough,—to have put ten pounds' worth of good bar-iron, purchased by himself, into his master's pig-donkey?

Correspondence.

THE NEW CROWN PIECE.

SIR,—With all due respect for Mr. Britton and the metre, if not the matter of his quotation from the poet Crabbe, I would submit the former is not altogether happy in his onslaught on the dead languages, which appears in your paper of Saturday last.

Assuredly something more than "custom or common-place prejudice" has conspired to render the Latin language eligible, even in these days of "the diffusion of knowledge," for architectural inscriptions, coins, and other such historical records. It may not be the "vernacular idiom of the country," but is is (what our vernacular can never hope to be) the language, more or less, of the learned in all countries; and they are, after all, the most likely people to care for the meaning of an inscription on a coin.

To one so conversant with English antiquities as your learned correspondent, the language of Bede, of Chaucer, or Spenser, may be an idiom patent as ours of 1847; but to my humble self, and "the million," whom we hear so much about, it is indeed a dead and a buried language; and I cannot but think that were the inscription on Mr. Wyon's coin "done into English," the chance of its going *far* down to posterity translateable is somewhat problematical.

Flatly opposite Mr. Britton's letter, you have incontinently placed your account of the laying of the foundation-stone of Miss Burdett Coutts's new church. Haply, Sir, when our "vernacular" shall be, as Bede's and Chaucer's almost already is, forgotten, some future Britton shall dig up the foundations of Mr. Ferrey's church, decipher and translate this odious Latin inscription, and publish to "the million" of that day, the piety of the benevolent foundress.—I am, Sir, &c,

WILLIAM YOUNG.

London, July 26, 1847.

THE BRITISH MUSEUM AND NATIONAL GALLERY, &c.—A return moved for by Mr. Hume, shows that 825,901 persons visited the British Museum in 1846, viz., 750,601 to the general collection, 66,784 to the reading-rooms, 4,126 to the sculpture galleries, and 4,390 to the print-rooms. The number of visiters to the National Gallery in the year 1846 amounted to 608, 40. The pictures purchased for the National Gallery since August 6, 1846, are three in number; viz., 1, Philip IV. of Spain hunting the wild boar, by Velasquez, from Lord Cowley's collection, for 2,200*l.*; 2, Annibale Caracci's Temptation of Anthony, from the Earl of Dartmouth's collection, for 787*l.* 10s.; and 3, Raffaelle's Vision of a Knight, from the collection of the Rev. T. Egerton, heir to Lady Sykes, for 1,050*l.* The number of visiters to the armouries at the Tower of London in 1846 amounted to 52,287 only.

Miscellanea.

WATER COMPANIES.—Sir: What I complain of water companies is, they have no printed regulations for us to go by, and we are at all times at a loss to know what to insert in specifications in respect of this work; and is the supply of half an hour each day the water is turned on, three days a week, sufficient? I think if the directors were to read the lectures of Dr. Conolly, and the remarks contained in the *London Journal* on the public health, which says,—"to preserve health and avoid typhus fever, use as much water in the house as you possibly can," &c., and in another article it says "keep the skin well washed," &c., they would then perhaps alter their opinions and system. I think there appears something wanting on the part of the West Middlesex, as they are not much above the force of the artesian well, and there is a wide difference between their ferules or unions and those of the New River Company; one has it to the full scope of the pipe, and the other contends that the ferules shall be one-fourth less to prevent friction, and be at the same time sufficiently large. ARCHI.

FOREIGN.—Three pashas have put down their names as honorary members of the Mechanics' Institution recently established at Constantinople.——Mehemet Ali has refused to allow the European population of Alexandria to erect an equestrian statue as a tribute of respect to him, but a more useful monument in the form of public chambers for an exchange, theatre, and club-house, has been countenanced. The façades are to be ornamented with bas-reliefs in marble, of the barrage of the Nile, and the emblems of agriculture and commerce, intermingled with military trophies. A marble bust of the viceroy, and a marble tablet of the founders' names, are also to be erected. ——The municipal council of Copenhagen has resolved to establish baths for the use of the poor, on the model of those lately constructed in England.——A cargo of 20,000 Dutch bricks has been imported at Liverpool for home consumption.——A quantity of granite is also said to have arrived from China!

LIABILITY OF RAILWAY CONTRACTORS.—In the County Court at Newcastle on Tuesday week, a Mr. Fairbairn complained, by action, that whilst some workmen engaged by Messrs. Rush and Lawton, contractors, in the construction of the high level bridge there, were pulling down an adjoining house, they knocked off a part of the plaintiff's roof. That shortly afterwards, on said roof, snow had thawed into water, and the water had made plaintiff's house damp. That the damp thus produced had made plaintiff ill, and that during his illness he was obliged to employ a person to attend to his business, and also a medical man to attend to himself. That thereby he, the plaintiff, had sustained damages to the amount of 10*l.* 4s. 1½d., and was entitled to be reimbursed for these by the defendants. In defence against these successive results of a series of misfortunes comparable only perhaps to those which occurred in the celebrated house which Jack built, Mr. Brewis contended that under the Railway Clauses Consolidation Act, the action should have been brought against the railway company. His honour, however, the judge, thought otherwise; and the jury returned a verdict for the plaintiff to the full amount.

WESTMINSTER HALL.—The price given for Mr. Cross's picture of "Richard Cœur de Lion" is, we are informed, six hundred guineas,—not five hundred, as we stated last week; and that paid for Mr. Pickersgill's "Burial of Harold" is four hundred guineas, instead of five. These respective prices are so adjusted as to equalise the sum finally obtained by the respective artists for their several pictures; making it in each case nine hundred guineas, or pounds.—*Athenæum.* For the "Christ healing the Sick in the Temple"—a far inferior picture to Mr. Cross's "King Richard"—the governors of the British Institution gave three hundred guineas. It is now in the National Gallery, and, what is more, undeservedly there. But Mr. Cross must not think that he has already done enough. West died as full of confidence as years, and yet where is he now? Soane died thinking his treasury secure, and Wilkins his National Gallery; yet Barry has destroyed the one, and the trustees of the National Gallery have pretty well determined the fate of the other.—*Daily News.*

PROJECTED WORKS, &c.—Tenders have been called for by advertisement for the erection of a hospital and casual wards at the Bridgwater Union Workhouse; the enlargement by erection of new buildings, &c., of a pauper lunatic asylum, near Oxford; the taking down and rebuilding of a farm-house near Chelmsford; the formation of a sewer of 444 yards in length at Cambridge; the supply of 1,000 yards of good road materials at Bethnal-green; of 20 to 50 tons of fire bar-iron, a quantity of S.C. Staffordshire iron in bars, rods, and sheets, and of zinc in ingots and sheets, also a supply of gas fittings, and of glass in various forms, all for the London and South Coast railway; for a supply of 50,000 memel or oak sleepers for the Leeds and Bradford, also for the execution of a goods shed 40 feet by 28 feet at the Kirkstall station of same line; and for the execution of the whole works on 8¼ miles of the Glasgow, Airdrie, and Monklands junction, in one or two contracts.

SMITHFIELD MARKET.—We understand that the plan for improving Smithfield, which appeared in our pages a few weeks ago, is under the consideration of the Common Council. The author of it, there is no objection to stating, is Sir Archibald Duff, of Elgin.

TO CORRESPONDENTS.

"*Cardiff County Hall.*"—Two correspondents complain that they have not yet heard the result of the competition. A third objects to a correspondent's letter on this subject last week, but we have not room for it.

"*Commissioner of Sewers.*"—We shall not lose sight of the topics mentioned by our correspondent: they are all fairly within our province: most of them indeed have been occasionally treated of.

"*Sir H. D.*"—Is the evidence obtainable?

"*P. Z.*"—There is no "substantial substitute." If the cistern is not already constructed, one of slate will be found cheaper, as it needs no lining.

"*P.*"—Write to the agent.

"*A Builder.*"—The asphalted felt may not be used for external covering within the limits of the Buildings Act.

"*H. B.*"—It would be in most cases very inconvenient to see all the parties who reply to advertisements. We should advise clerks of works to send *copies* of testimonials, and not the originals.

Received.—"A. Z.," "F. M.," "Mr. R.," "G. M.," "T. H.," "A. F.," "C. R. C."

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

ADVERTISEMENTS.

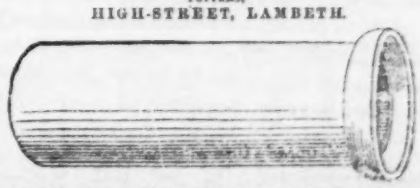
PAVING, 2s. 9d. PER SQUARE YARD.

Basements, Foot-walks, Malt-houses, Corn Stores, Floors of Warehouses, and every description of Pavement laid down at the above low price, and the work guaranteed.—Apply to JOHN PILKINGTON, POLONCEAU'S BITUMEN PAVEMENT OFFICE, 18, WHARF-ROAD, CITY-ROAD.—N.B. Country Agents and Railway Engineers and Contractors supplied with the best bitumen for covering bridges and arches.

SMITH'S SUPERIOR GLAZED BROWN STONE SOCKET DRAIN PIPES, 2 feet lengths, in various bores, from 2 to 9 inches, patronized by the Right Hon. and Hon. Commissioners of Sewers for the city of Westminster. To be had at the manufactory, 73, Princes-street, Lambeth. A stock of elbows, stink-traps, and various shapes always on hand.

TUBULAR DRAINS IN STONE WARE,

Manufactured by
HENRY DOULTON AND Co.
POTTERS,
HIGH-STREET, LAMBETH.



The only Efficient Mode of Drainage is by Tubular Drains; from their form they give every facility for a perfectly free passage.
The material of which they are composed is imperishable, impervious to moisture, and cannot corrode; in addition to which, they are glazed inside.
They can be laid down with more ease, and at less expense, than common brick drains.
Manufactured from 2 inch to 12 inch bore, in 2 feet lengths, with Socket Joints. Sizes chiefly used for House Drains, 4 inch, 6 inch, and 9 inch. Bends and Junctions of all kinds.
These pipes are recommended by Her Majesty's Commissioners of Sewers for the Metropolitan Districts.

LONDON and PROVINCIAL JOINT STOCK LIFE INSURANCE COMPANY.—The Directors invite the Public generally, also Building Societies and Borrowers, through them or from other parties, to examine the peculiar system and striking advantages offered by this Office.
Every description of LIFE ASSURANCE, INVESTMENT, and LOAN Business transacted. LOW RATES of PREMIUM, and THREE-FOURTHS of PROFITS divided.—For Prospectuses, &c. apply to JOHN MASSON, Secretary.
Offices, No. 38, Nicholas-lane, Lombard-street.

EQUITY and LAW LIFE ASSURANCE SOCIETY, No. 26, Lincoln's-inn-fields, London.

TRUSTEES.
The Right Honourable Lord Montague.
The Right Honourable the Lord Chief Baron.
The Honourable Mr. Justice Coleridge.
The Honourable Mr. Justice Erle.
Nassau W. Senior, Esq., Master in Chancery.
Charles Purton Cooper, Esq., Q.C., LL.D., F.R.S.
George Capron, Esq.

Parties assuring within six months from their last birthday are allowed a diminution of half a year in the premium charged; and premiums may be made payable half-yearly or quarterly.
Policies in which third parties are interested, if the life assured go beyond the prescribed limits without the knowledge of such parties, may be renewed.
The Tables, calculated from the National Returns, are especially favourable to young and middle-aged lives.
Assurances may be effected on an ascending scale, at a very reduced rate for the first seven years. Annuities granted.
Eighty per cent. of the profits are divided amongst the assured.
The usual commission allowed.
Office hours between Ten and Four. Communications to be addressed to the Secretary.
J. J. SYLVESTER, Actuary and Secretary.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

THOS. MILLINGTON, 87, Bishopsgate-street Without, has a large Stock of Crown Glass on hand of the following sizes:—10 by 8, 9 by 7, 8 by 6, at 2d. per foot. Every description of Window Glass.

FOREIGN WINDOW GLASS, superior to English, 16 ounces to the foot, suitable for general purposes, in cases of 200 feet, for 42s., or about 2½d. per foot, in large dimensions; smaller do., in 100 feet cases, at 2d. per foot. Not less than a case can be had at these prices, and the order must be accompanied with a remittance.—THOS. MILLINGTON, 87, Bishopsgate-street Without.

COLOURED WINDOW GLASS, equal to the Antient.

Ruby in Sheets, a splendid colour, per foot	2s.	3d.
Green	1	3
Blue	1	0
Purple	1	0

Glass Engraved to any Design.—THOS. MILLINGTON, 87, Bishopsgate-street Without.

PLATE GLASS.— Architects, Builders, and the Trade generally, are solicited to inspect the quality and substance manufactured by the UNION PLATE GLASS COMPANY.

N.B. Rough Plate supplied one-fourth, three-eighth, one-half, and three-quarter-inch thick. — Warehouse, 20, Hatton-garden, Holborn.

H. CHRISTIE, Agent.

EMBOSSED GLASS.

EDWARDS and PELL, 15, Southampton-street, Strand, Embossers, and Ornamental Glass Painters, are prepared to execute every description of Work in the best style and on the lowest terms: Embossed Borders from 8d. per foot run. Architects and Builders are respectfully solicited to inspect the patterns which are always on view, and will be found equal to any in London. As the work is done on the premises, EDWARDS and PELL can guarantee its being properly executed.

SOHO PLATE GLASS WAREHOUSE, 26, SOHO SQUARE.—A. GOSLETT begs to inform Builders and the Trade generally, that he is prepared to contract for the supply of any quantity of Belgian 21 and 16 oz. Sheet Glass, either cut to sizes or in 100 and 200 feet cases, delivered free in London. Having a large stock on consignment at his Warehouse, he begs the favor of an inspection; he has also just received a few cases of very fine ruby and other coloured sheet glass at very low prices.

SOHO PLATE GLASS WAREHOUSE, 26, SOHO-SQUARE, depot for the sale of the PLATE GLASS manufactured by the St. Gobain and St. Quirin and Cirey Companies, Paris. The attention of Architects, Builders, and the Trade generally is particularly requested to this article, which stands UNRIVALLED FOR BRILLIANCY OF COLOUR, superiority of substance and polish, and possesses almost faultless quality. This Plate Glass can be procured of any dimensions.—Applications for samples, lists of prices, and all further particulars, to be addressed to ALFRED GOSLETT, Agent, 26, Soho-square.

TO PLUMBERS, PAINTERS, AND GLAZIERS.

CROWN GLASS, in Crates of Eighteen Tables, at the following low prices, for ready money:—

		£.	s.	d.	
Crown Glass cut to size from one foot upwards, at 3d. per foot.	Thirds	4	4	0	Squares of Small Crown Glass, at 1d. 1½d., 2d. and 2½d. per foot.
	Fourths	3	10	0	
	C.C.	2	8	0	
	C.C.C.	2	0	0	

SHEET GLASS of all descriptions equally low.—White Lead, Oil, Turps, Colours, and Varnishes, at WILLIAM FREDERICK PENTON'S Window Glass, Lead, Oil, and Colour Warehouse, 26, West Smithfield, London.

WINDOW GLASS.

JAMES PHILLIPS and Co., 116, Bishopsgate-street, Without, beg to call the attention of the Trade to their reduced prices of Crown and Sheet Glass for cash only.

CROWN GLASS, in Crates.

		£.	s.	d.
Best	12 Tables	3	0	0
Seconds	15 „	3	7	0
Thirds	18 „	3	11	0
Fourths	18 „	3	1	0
CC	18 „	2	4	6
CCC	18 „	1	15	0

CROWN SQUARES, in 100 feet Boxes.

4 by 3 and 4½ by 3½	.. 11d.	per ft.
5 .. 3 „ 5½ .. 3½	.. 1s.	„
6 .. 4 „ 6 .. 4½	.. 1s.	„
7 .. 5 „ 7½ .. 5½	.. 2	„
8 .. 6 „ 8½ .. 6½	.. 3	„
9 .. 7 „ 10 .. 8	2½	„
Quarries 10	2½	„

Squares cut to order, 3d. per foot.

SHEET GLASS in Crates.

Horticultural	13 oz.	.. 2½d.	per ft.
	16 „	.. 3	„
Sheet Glass	16 „	.. 3½	„
„ „	21 „	.. 4	„
„ „	26 „	.. 7	„
„ „	32 „	.. 8½	„

BEST HORTICULTURAL SHEET GLASS,

For Hothouses, Conservatories, &c., in sizes up to 40 in. long.

16 oz. per foot	0s. 4d.	per ft.
21 „	0 6	„
26 „	0 8	„
32 „	0 10	„

GLASS TILES AND SLATES.

	16 oz.	21 oz.	26 oz.	32 oz.
Tiles made of Sheet Glass	8d.	10d.	1s. 0d.	1s. 4d. each.
Slates, 20 by 10	10d.	1s.	1s. 4d.	1s. 8d. „

Best Linseed Oil Putty, 8s. per cwt.

116, BISHOPSGATE-STREET, WITHOUT.

HERRING'S PATENT SAFETY WINDOW.—No invention ever offered the advantages to builders and the public; it will positively add 5 to 10 per cent. to all houses having it; repay the cost every two years; abolish all danger to life and limb, cleaning and repairing. It is in full operation (four different ways), forms a complete ventilator and sun-blind; all simple, cheap, and effective.—Apply for licenses and to inspect its real merits, to HERRING'S Patent Steam Bed-Feather Factory, 14, Kingsgate-street, London.

CHAS. WM. WATERLOW,

MANUFACTURER

of Sashes and Frames, and Joiner to the Trade, 12L, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

DRUCE'S, No. 2 WHARF late Paradise-wharf, Chelsea.

TO THE TRADE.—Parties desirous of delivering Timber Deals, Stone, Bricks, or any other goods, in the districts of Chelsea, Brompton, Fulham, Kensington, &c. &c., will find great facilities of Wharfage, Cranage, or Delivery, by applying as above. A weigh-bridge and drawdock.—N.B. Depôt for Glass Pantiles.

FIRE BRICKS.—WARD & HART, Honduras Wharf, Bankside, Manufacturers and Exporters of every sort of Fire Bricks, Lumps, Tiles, Clay, &c. Builders, Gas Companies, Engineers, Shippers, and all large buyers, supplied from ships from the Manufactories direct, at the lowest prices. A large Stock of every quality always on hand at the Wharf as above. Goods made to pattern at a short notice. Patent Corn Drying Malting Tiles. Lime, Sand, Gravel, Bricks, and Tiles, of every description.

GREASE! GREASE! GREASE!—JAMES THOMAS FITT begs to inform Railway Contractors, that he is supplying Patent Grease at the following prices:—White Grease, 11s. per cwt.; Black Grease, 8s. 6d. per cwt. 2½ per cent. discount for cash.

Samples sent by addressing to J. T. FITT, Swan Mead, Bermondsey New-road, London.

TO BUILDERS, PAINTERS, AND OTHERS.

MESSRS. WOOD and Co., GRAINERS, and WRITERS to the Trade only. 70, York Road, Lambeth; and at 28, Cross Street, Blackfriar's Road.

(A) TO RAILWAY CONTRACTORS AND BUILDERS.

HENRY WILLIAMS, House and Decorative Painter and Writer, 13, Great Distaff-lane, Cheapside, London, having attained extensive experience in the ground work, together with the Writing of Inscription Tablets, &c., which are peculiarly adapted for Railway Stations.

A PRIZE may be obtained by one of those applications, which approximate to certain conditions, viz: The name of any one principal Railway Station will be executed, being the nearest to, and not exceeding 130 miles from London; and also, to be in that advanced state of completion which will admit of an early commencement in the process of the painting in conjunction with the prize.

H. W. guarantees that the ground-work, in depth of tone and beauty of colouring, will totally eclipse all former inventions. To insure the prize all applications must be tendered on or before FRIDAY, the 27th day of August, bearing the letter (A).

WALLIS'S PATENT LIQUID WOOD KNOTTING.—This newly-discovered Liquid Composition, which Messrs. Geo. and Thos. Wallis have the satisfaction of introducing to the Trade, possesses the important qualification of effectually stopping Knots in Wood, however bad, and preventing them eating through and disfiguring the paint above.

Many substances have been used and much time spent in endeavouring to find a cure for a bad Knot, but hitherto without success. Messrs. Wallis therefore feel much pleasure in offering to the public an article so long and anxiously called for.

In the application, skill is not required; it is put on to the work with a brush like common paint, can be used in all climates and situations, and does not require heat.

Sold wholesale and retail, by Messrs. G. and T. Wallis, Varnish, Japan, and Colour Manufacturers, No. 64, Long Acre.

TODD'S PATENT PROTOXIDE PAINT manufactured by CHAS. FRANCIS and SONS, CEMENT WORKS, NINE ELMS, LONDON.

The properties of this Paint are peculiar for preventing iron from oxidation, wood from decay, and masonry from damp; it neither cracks nor blisters with the hottest sun, and is therefore most valuable for Railways, Boilers, Steam, Gas, and Water-pipes; Hothouses, Forcing-houses, and for Shipping. Its adhesion is so great to iron and wood, that the hardest friction will scarcely remove it. It prevents vegetation on stuccoed buildings, and is not affected by spray of sea-water.

PROTOXIDE PAINT is sold ground in oil, and, compared with white-lead, its property of concealing is as 75 to 50, so that one hundred weight is equal to one and a half of lead. It works well under the brush, and forms with oil an unctuous and cohesive mixture. If blended with other paints it has a *softer* tone than white-lead. For houses painted during occupation, it is most preferable, being perfectly innoxious.

ECONOMY! ECONOMY!

STEPHENS' DYES FOR STAINING WOOD, as a SUBSTITUTE for PAINT. For Decorating Churches, Large Public Rooms and Theatres, as well as Private Dwellings.

When economy in expenditure of material and time is of importance, these Dyes will be found of the greatest advantage, as they give a rich colour to plain woods, while they reflect all the beauty of the natural graining, which is so superior to imitations by art, and, at the same time, avoid the disagreeable smell and deleterious consequences of paint.

The Dyes, or Stains, are prepared and sold by HENRY STEPHENS, 54, Stamford-street, Blackfriars-road, London, in bottles of 6d. and 1s. each, and at 10s. per gallon. The Oak Colour may be obtained in powder at 8s. per lb., which dissolves in water to form the liquid, and 1lb. will make one gallon of stain.—N.B. The trade supplied.

Sold also at the Office of "The Builder," 2, York-street, Covent-garden, London.

PORTER'S CORRUGATED and PATENT GALVANIZED IRON ROOFING WORKS, Southwark-bridge (and the Grove), Southwark. At the above Works, the Public are secure in having the superior make, and by the Patent process of Galvanizing Iron as first introduced into this Country, with many improvements in its application to Roofs, Buildings, &c. Every description of Building, Railway, and other Iron and Smith's work Manufactured of the best quality. Iron Fence and Hurdles as usual.—The Trade Supplied.

PUMPS.— The attention of Architects, Builders, Contractors, Brickmakers, Barge and Ship Builders, and others, are respectfully requested to M. A. RICHARDS' superior Stock of Pumps for Roads, Gardens, Excavations, Brickfields, Liquid Manure, Barges and Ships, in Wrought or Cast Iron, bored, perfectly true by Machinery. Hydraulic Lift Pumps for Wells of any depth. Single and Double Barrel Pumps up to 10-inch kept for hire. Estimates given to Drawings if required.—M. A. RICHARDS, 3, Old Barge-house-street, Commercial-road, Lambeth.

HOT WATER APPARATUS. — The attention of architects, builders, and others is respectfully requested to BENJAMIN FOWLER'S superior method of heating churches and chapels, halls, staircases, conservatories, forcing and greenhouses, manufactories, and warehouses, kilns, rooms for drying timber, &c., and every variety of purpose for which artificial heat is required. Within the last twenty years some hundreds of buildings have been heated upon this plan, and the parties for whom they were executed are constantly expressing their satisfaction, also their willingness to vouch for their efficiency. An improved wrought-iron boiler, which requires no brickwork, may be seen in action upon the premises.—BENJAMIN FOWLER, 63, Dorset-street, Fleet-street.

TO BUILDERS AND CARPENTERS.

A Considerable saving will be effected in the purchase of IRONMONGERY, by applying at F. R. WILLIAMSON'S Wholesale Warehouse, No. 35, Chiswell-street, Finsbury-square, near Whitbread's Brewery.

Best Patent Cut Clasp.

3d.	4d.	6d.	8d.	10d.	20d.
6d.	7d.	9d.	1s.	1s. 6d.	2s. per 1,000.

Best Sheet Floor Brads 15s. per cwt.
Best Town Glue 40s. per cwt. Do. Scotch, 32s. per cwt.

Best Patent Sash Line.

1	2	3	4	5	6
4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	13s. per gross.

Elliptic Stoves, 3d. per inch. Registers, 6½d., 7d., 8d., per inch.
Self-acting Kitchen Ranges, with Oven and Back Boiler.
Wrought Bars and Bright Fittings.

3 ft., £3. 3s.	3 ft. 6 in., £3. 13s. 6d.	4 ft., £4.

Lists of Prices had on application at the Warehouse; if by letter pre-paid, inclosing postage stamp.

TO ARCHITECTS, BUILDERS, &c.

R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 196, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven, and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3. 0s.	£3. 15s.	£3. 19s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 feet 9 in.	4 ft.
£5.	£5. 15s.	£6. 5s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 8d., and 9d. per inch.
Do. Elliptic do., at 2½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

OLD ESTABLISHED, WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6½d. per in. and upwards.
Bright ditto with Black and Bright Bars, 3l. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler, Wrought Bars, Fittings Bright:—

3 ft.	3ft. 6 in.	4 ft.
3l. 3s.	3l. 14s.	4l. 5s.

All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 6s. per pull.

IMPORTANT TO ARCHITECTS, BUILDERS, and GENTLEMEN fitting up their own Houses.

PRETYMAN and HOBSON, being about to relinquish the Stove Trade, have a large and well-selected assortment of drawing and dining-room, library, and college Register Stoves, of the most recherché patterns, which they have determined to sell at a great reduction from the cost prices Stove and Range Manufactory, 17, Cornhill, opposite the Royal Exchange.

IRON-WORK FOR BAKERS' OVENS.

F. A. TIDDEMAN, Purfleet Wharf, Earl Street, Blackfriars, keeps an assortment of Stocks, or mouth pieces; Plates, Furnace-bars, Top and Fall Pieces, Stoppers, Chimney-bars, Inside, Outside, and Ash-pit, Doors and Frames, Boilers and Frames, Lamps, &c., &c.; all of the best description, at very moderate prices.—CAST-IRON UPSETS.

BLAKE and PARKIN, Meadow Steel Works, Sheffield.—Manufacturers of improved Mill Saws, Circular Saws, Files, Patent Machine Plane Irons, Machine Grooving and Moulding Irons. Cutters of all sorts. Blister, Shear, and Cast Steel, Railway Springs, &c.

IRONFOUNDRY.
168, Drury-lane, and Charles-street, London,
JOSEPH GLOVER,
Late HENDRY and GLOVER),

BEGS to inform his Customers, that the PARTNERSHIP between him and WM. HENDRY is DISSOLVED, and that the whole of the business is now solely his; and in consequence of which, he has been enabled to make such arrangements and improvements that they will be insured every advantage in quality, price, and punctuality. The stock of patterns has been re-arranged, to give every facility for selection. A stock of Rain-water Pipes, Heads, Shoes, &c.

CHUBB'S IRON DOORS AND FIRE-PROOF SAFES.

C. CHUBB and SON having just erected a Steam Engine and extensive Machinery to meet the increasing demand for articles of their Manufacture, they beg to inform Architects and Builders that they are now enabled to manufacture Wrought Iron doors for strong rooms and other purposes, and Fireproof Safes at a great reduction in price, and of very superior quality. All their Iron Doors and Safes are fitted with C. CHUBB and SON'S best DETECTOR LOCKS.
57, 58, Paul's Church-yard, London.

TO ARCHITECTS AND SURVEYORS.

C. CHUBB and SON having ascertained that some builders are in the habit of substituting inferior and insecure Iron doors for strong rooms, when "CHUBB'S MAKE" are ordered, they call the attention of Architects to the subject. In all specifications where it is intended to have the articles manufactured by C. CHUBB and SON, they respectfully request that Architects will specify "Iron doors manufactured by C. CHUBB and SON, of St. Paul's Church-yard," and to require on the completion of the work, a certificate from C. CHUBB and SON that the doors are of their manufacture.

HEAL AND SON have just completed the erection of Machinery for the purifying of feathers on a new principle, by which the offensive properties of the quill are evaporated and carried off in steam: thereby not only are the impurities of the feather itself entirely removed, but they are rendered quite free from the unpleasant smell of the stove which all new feathers are subject to that are dressed in the ordinary way.

Old Beds re-dressed by this process are perfectly freed from all impurities, and by expanding the feathers the bulk is greatly increased, and consequently the Bed is rendered much softer. The following are the prices of New Feathers:—

Mixed, per lb.	1s. 0d.	Foreign Grey Goose	1s. 8d.
Grey Goose	1s. 4d.	Best Foreign Grey Goose	2s. 0d.
Best Irish White Goose	2s. 6d.		
Best Dantzic White Goose	3s. 0d.		

HEAL and SON'S LIST OF BEDDING, containing full particulars of Weights, Sizes, and Prices, sent free by post, on application to their Establishment, 196, opposite the Chapel, Tottenham-court-road.

SEYSSEL ASPHALTE COMPANY.

CLARIDGE'S PATENT.

Established March, 1838, for working the Mineral Asphalte Rock of Pyrimont Seyssel, a Bituminous Rock, situate on the Eastern side of the Jura.

Principal Depots, ROUEN, MARSEILLES, and STANGATE, Surrey side of Westminster-bridge, London.

THE ASPHALTE of SEYSSEL has been extensively used since March, 1838, for the following useful purposes:—

Foot Pavements.	Dog-kennels.	Covering of Railroad and other Arches.
Kitchen Floors (particularly where it is essential to keep damps from rising).	Barn Floors.	The only effectual mode to prevent the percolation of water, which also renders it very appropriate for the Lining of Tanks, Fish-ponds, &c. &c.
Garden Walks and Terraces.	Granaries.	
Carriage Drives.	Tan-room Floors.	
Coach-houses and Stabling.	Malt-house Floors.	
	Pigeries, &c. &c.	

The attention of RAILWAY ENGINEERS, ARCHITECTS, and CONTRACTORS is particularly directed to the great advantage to be derived from the application of SEYSSEL ASPHALTE.

The arrangements of the SEYSSEL ASPHALTE COMPANY, CLARIDGE'S PATENT, enable it to execute Works of any extent with the greatest promptitude.

In order to guard against the use of spurious materials, it is important that all applications for Works to be executed, be made direct to this Company; and as a further protection, it is suggested that Engineers, Architects, and Contractors should require a CERTIFICATE from the Company that the proper description of material has been used.

Information may be obtained as to all Works which have been executed by the Company since its establishment in 1838, which will prove that the failure of many Works represented to have been done with the genuine material, has resulted from the substitution of a spurious one.

I. FARRELL, Secretary,
Seyssel Asphalte Company, Stangate, London.